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**Summary of  
Cotton Fiber and Processing Test Results**

CROP of

**1972**



**U.S. DEPARTMENT OF AGRICULTURE  
Agricultural Marketing Service  
Cotton Division, May 1973**

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## SUMMARY OF COTTON FIBER AND PROCESSING TEST RESULTS CROP OF 1972

### INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton from major commercial production areas of the United States. Similar reports have been published annually since 1946. 1/ These reports summarize and add supplemental information to the data published in biweekly reports which were titled "Cotton Fiber and Processing Test Results, Crop of 1972" and numbered 1 through 14.

The results of fiber and spinning tests made in connection with these annual surveys provide data for studies of the relationships between fiber properties, processing performance and product quality. The data are used to measure the effectiveness of the standards to be sure that they continue to reflect differences in spinning utility. Publication of the bi-weekly reports enables merchants and manufacturers to use the results to locate sources of cotton to meet their specific requirements. Farmers and breeders may also use the data as a source of quality information regarding the various varieties of cottons produced under commercial growing conditions.

### SAMPLING PROCEDURES

The procedure for selecting samples for the 1972 survey was designed to provide test lots representing all major varieties in each of the territories served by Cotton Division classing offices. Variety selections were based on the predominant varieties planted in each classing office territory as reported by the Cotton Division in "Cotton Varieties Planted, 1968-1972". A production area was selected to represent the leading variety and one to represent each of the other varieties with an expected production of 10,000 bales or more in each classing office territory. Additional areas were selected for those varieties with a production of over 125,000 bales. One additional production area was selected for each 125,000 bales or portion thereof in excess of the first 125,000 bales. Production areas with at least 70 percent of one variety were designated as that variety with no attempt made to maintain the purity of the variety except by selection of representative production areas. However, in some cases, where there was unusual interest in a particular variety and a low percentage was planted in the area, the classing offices selected lots representing 100 percent of the variety. The locations of the production areas selected for the 1972 survey are shown on figure 1.

1/ Copies of past summary reports may be obtained from the Standardization Section, Cotton Division, AMS, USDA, P. O. Box 17723, Memphis, Tennessee 38117 until supplies are exhausted.

DISTRIBUTION OF PRODUCTION AREAS  
FROM WHICH COTTON SAMPLES WERE TESTED, CROP OF 1972

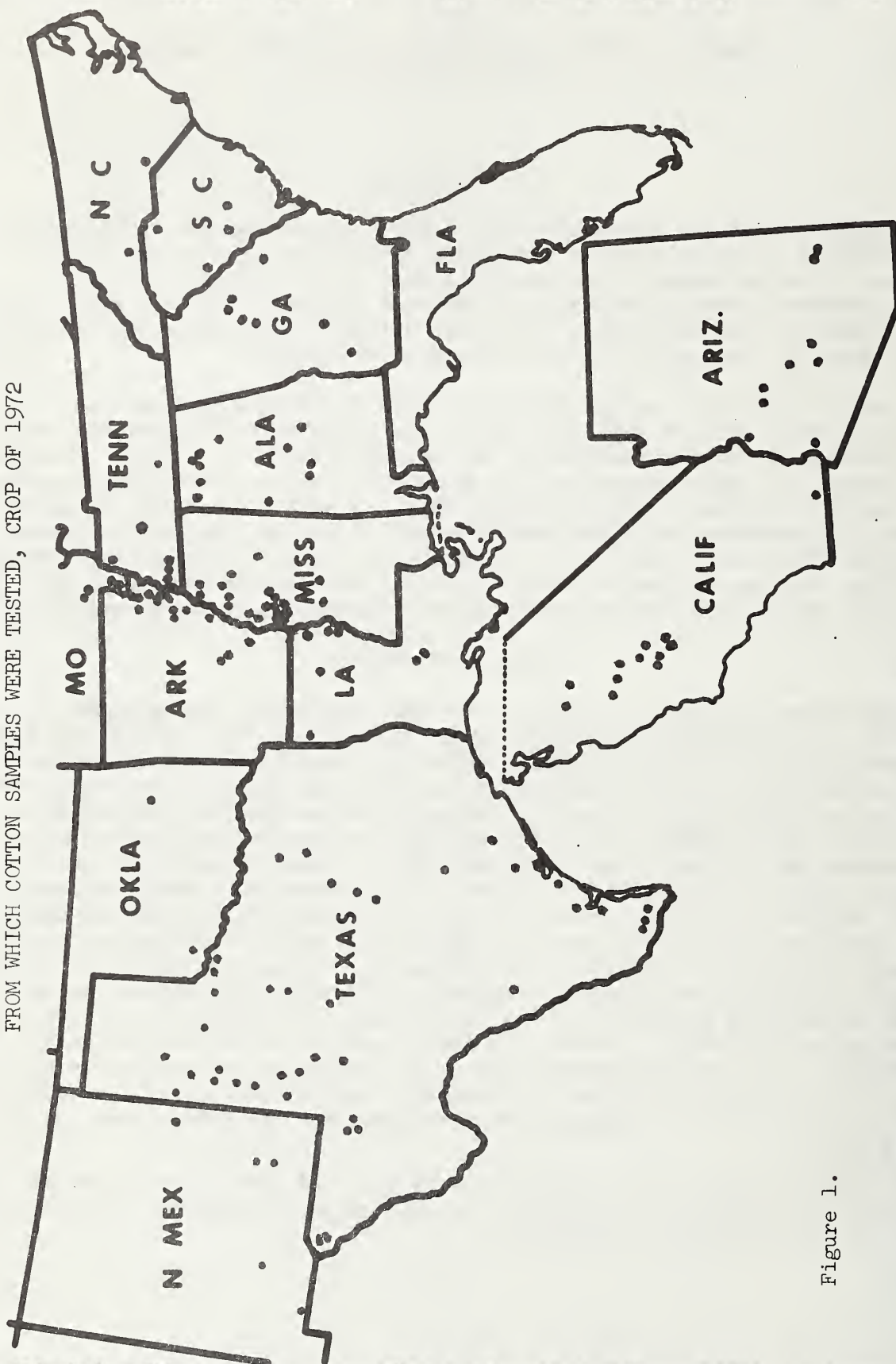


Figure 1.

U. S. DEPARTMENT OF AGRICULTURE, AMS, COTTON DIVISION

Test lots were collected from each production area at intervals of three weeks during the harvest season. Lots were selected to represent the predominant grade and staple being classed at the time of collection. For the most part, these areas produce the specified qualities in quantities large enough to enable buyers to obtain lots of even-running grade and staple. Obviously, other qualities of cotton are available in each area as a result of normal seasonal, soil, harvesting and other variations. Most production areas also produce cotton of varieties other than those included in the tests.

Each spinning lot used in this study was made up of 20 to 30 samples of the same grade and staple length from bales classed for growers under the Smith-Doxey Act. These even-running lots of samples were then tested at Cotton Division fiber and spinning laboratories. While this method of collecting samples does not provide data for all qualities in the crop, it does provide average test results for those qualities in largest supply during each three-week period.

#### LABORATORY PROCEDURES

As in previous years, all tests in this study were performed in the Cotton Division laboratories at College Station, Texas and Clemson, South Carolina. Fiber and spinning tests on all long and extra long staple lots and on medium staple lots from Missouri and states east of the Mississippi River were performed at the Clemson laboratory. Fiber and spinning tests on all short staple lots and on medium staple lots from states west of the Mississippi River, except Missouri, were performed at the College Station laboratory. Chemical finishing tests on all lots were performed at the Clemson laboratory.

Fiber, spinning, and chemical finishing tests were performed under standardized laboratory procedures. Most of the fiber tests were performed in the standard atmospheric conditions of 65 percent relative humidity at a temperature of 70 degrees F. Standard test procedures as outlined by the American Society for Testing and Materials were used in making tests. Tests not covered by ASTM were performed using commonly accepted procedures as recommended by the instrument manufacturer. Five subsamples were taken at random from each spinning lot to provide representative specimens for the fiber tests.

Yarn processing or spinning tests were performed by a technique developed in the Cotton Division laboratories for processing small lots of cotton on standard-type textile machines. The samples in each lot were thoroughly composited by hand-mixing before being fed to the first process picker. This hand-mixing is similar to the machine mixing normally obtained in cotton textile opening equipment. Observations were made at each process to measure processing behavior and the yarns produced were tested to measure product quality.

On the basis of average past performance, cottons were grouped according to the expected staple length for the specified variety. All cottons of the specified variety were spun in the same manner regardless of differences in staple length. This was done so that direct comparisons of different lots of cotton within a specified variety could be made. These samples were carded at specified production rates and spun into numbers that reflect the manufacturing values of the varieties tested. In general, the rates of carding and yarn numbers spun from the 1972 crop are as follows:

Group 1.--Short staple cottons, carded at 12-1/2 pounds per hour and spun into carded 8s and 22s yarns with a twist multiplier of 4.40 plus a carded yarn spinning potential test for all lots. This includes varieties which normally produce staple lengths 31/32 and shorter.

Group 2.--Medium staple cottons, carded at 9-1/2 pounds per hour and spun into carded 22s and 50s yarns with a twist multiplier of 4.00 plus a carded yarn spinning potential test for all lots. This group includes varieties which normally produce cottons from 1 inch through 1-3/32 inches in staple length.

Group 3.--Long staple cottons, carded at 6-1/2 pounds per hour and spun into both carded and combed 22s and 50s yarns with a twist multiplier of 3.80 plus a carded yarn spinning potential test for all lots. This group includes upland varieties which normally produce cottons from 1-1/8 inches through 1-1/4 inches in staple length.

Group 4.--Extra long staple cottons, carded at 4-1/2 pounds per hour and spun into combed 50s and 80s yarns with a twist multiplier of 3.60. This group includes all American Pima and American upland extra long staple varieties, which are usually 1-5/16 inches or longer in staple length.

Skeins of yarn from each spinning test lot were bleached and dyed by a technique developed in the Cotton Division laboratories for small scale finishing tests. Color tests were made on gray and chemically finished skeins of yarn as measures of the bleaching and dyeing behavior.

#### TEST RESULTS

##### Group 1.--Short Staple Cottons

A total of 57 short staple American upland spinning lots was tested for the 1972 crop compared to 68 in 1971. Average results showed the 1972 cottons to be longer, coarser and stronger at 1/8" gage fiber strength than the 1971 cottons. Both Shirley Analyzer nonlint content and picker and card waste were lower. Yarns from these short staple samples were stronger

with higher appearance grades and fewer imperfections than the 1971 crop. Average spinning potential yarn number was higher in 1972. (Table 1).

#### Group 2.--Medium Staple Cottons

The Southeastern production area includes the states of Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama. A total of 61 medium staple spinning lots was tested from this area in 1972 compared to 68 the previous year. Average results in 1972 showed these cottons to be finer and stronger than the previous year. Both Shirley Analyzer and picker and card waste were lower for the 1972 crop. Yarns spun from these samples were stronger with lower appearance grades and fewer imperfections. Average spinning potential yarn number was higher.

The South Central production area includes the states of Tennessee, Missouri, Mississippi, Arkansas and Louisiana. A total of 168 medium staple lots was tested in 1972 compared to 141 lots from the 1971 crop. Average results in 1972 showed these cottons to be shorter, more uniform and stronger at both zero and 1/8" gage fiber strength than in 1971. Shirley Analyzer nonlint content was lower and total picker and card waste was higher for 1972. Yarns spun from these samples were weaker, with lower appearance grades and slightly fewer imperfections. Average spinning potential yarn number was higher.

The Southwestern production area consists of the states of Oklahoma and Texas except far west Texas (served by the Pecos and El Paso classing offices). A total of 51 medium staple American upland spinning lots was tested from the Southwestern area from the 1972 crop compared to 48 in 1971. Average results showed the 1972 cottons to be longer, coarser and weaker at zero gage fiber strength than the 1971 cottons. Shirley Analyzer nonlint content was lower. Picker and card waste was slightly more for the 1972 crop. Yarns spun from these samples were weaker, with higher appearance grades and fewer imperfections. Average spinning potential yarn number was higher in 1972.

The Western production area consists of the states of California, Arizona, New Mexico and far west Texas. A total of 60 medium staple spinning lots was tested from this area in 1972 compared with a like number for the 1971 crop. Average results from these medium staple samples show the 1972 cottons to be shorter, coarser, and weaker than the 1971 crop. Shirley Analyzer nonlint content was slightly less while picker and card waste was higher than in 1971. Yarns spun from these samples were weaker, with slightly better appearance grades and fewer imperfections than the 1971 crop. Average spinning potential yarn number was lower.

A total of 340 medium staple American upland spinning lots was tested from the 1972 crop compared to 317 from the 1971 crop. Average fiber properties for the 1972 cottons tested show these cottons to be slightly shorter, more uniform and stronger at zero gage fiber strength than the 1971 cottons.

Shirley Analyzer nonlint content was less in 1972, however, picker and card waste was slightly more. Yarns spun from these samples in 1972 were weaker, with lower appearance grades and fewer imperfections. Average spinning potential yarn number was higher.

### Group 3.--Long Staple Cottons

A total of 19 long staple American upland spinning lots from the Southeastern area was tested in 1972 compared to 16 lots in 1971. Average results in 1972 showed these cottons to be shorter and stronger at both zero and 1/8" gage fiber strength than in 1971. Shirley Analyzer nonlint content and picker and card waste were both lower in 1972 cottons. Yarns spun from these samples were stronger, with lower appearance grades, but showed more imperfections. Average spinning potential yarn number was higher.

A total of four long staple American upland spinning lots from the South Central area in 1972 compared to three lots in 1971. Average results showed the 1972 cottons to be shorter, more uniform and finer than the 1971 cottons. The 1972 cottons were stronger at zero gage than in 1971. Both Shirley Analyzer nonlint content and picker and card waste were lower in 1972. Yarns spun from these samples were stronger, with lower appearance grades and a higher average spinning potential yarn number.

A total of 15 long staple American upland spinning lots was tested in 1972 from the Western area. This compares to 21 (including 6 lots of roller ginned cotton) lots tested in 1971 crop. Average results from these long staple lots showed the 1972 cottons to be slightly longer and weaker at 1/8" gage fiber strength than in 1971. Both Shirley Analyzer nonlint content and picker and card waste were lower. Yarns spun from these samples were weaker with lower appearance grades and fewer imperfections. Average spinning potential yarn number was higher.

A total of 38 long staple American upland spinning lots was tested in 1972, only two less than in 1971. Average results showed the 1972 cottons to be shorter, coarser and stronger at zero gage fiber strength than the 1971 cottons. Both Shirley Analyzer nonlint content and picker and card waste were lower in 1972 cotton. Yarns spun from these samples were weaker, with lower appearance grades. The 1972 cotton showed fewer imperfections than in 1971. Average spinning potential yarn number was higher in 1972.

### U. S. Average - Upland Cotton

Average fiber properties for 1972 cottons tested totaling 435 short, medium and long staple American upland spinning lots, show about the same Fibrograph length and fiber fineness as cottons tested from the 1971 crop. Fiber length, uniformity and strength for the 1972 cottons were slightly higher than the 1971 cottons. Shirley Analyzer nonlint content and picker and card waste

were both less for the 1972 crop. Yarns spun from these cottons were stronger with lower appearance grades and fewer yarn imperfections. Average spinning potential yarn number was higher than for the 1971 crop.

#### Group 4.--Extra Long Staple Cottons

A total of 21 extra long staple American Pima spinning lots was tested from the Western area in 1972. This compares with 25 lots tested in 1971. Average results showed the 1972 extra long staple cottons to be shorter, more uniform, finer and weaker than the 1971 cottons. Shirley Analyzer nonlint content remained about the same in 1972, while picker and card waste was less. Comber waste was higher than in 1971. Yarns spun from these samples were weaker with higher appearance grades than in 1971.

Table 1.--Cotton: Average results of classification, fiber and processing tests from selected gin points, crops of 1971 and 1972 1/

Area and Crop Year	Lots tested	Grade	Staple	Fiber test results						Processing test results				
				Fibrograph		Mike	Strength		Total non- lint	Picker & Card waste	Skein strength 22s	Appear- ance 22s	Yarn imperf. 22s	Spin. Potent.
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage						
SHORT STAPLE - American upland														
Southwest														
1971	68	86	30.3	0.95	45	3.8	79	20	4.3	7.1	86	112	40	38
1972	57	89	31.3	0.97	45	4.1	79	21	3.7	6.8	94	116	29	46
MEDIUM STAPLE - American upland														
Southeast														
1971	68	88	34.4	1.08	45	4.4	79	22	3.4	6.6	99	109	20	61
1972	61	88	34.1	1.08	45	4.3	83	23	3.0	6.2	104	104	16	66
South Central														
1971	141	92	34.8	1.10	44	4.3	81	22	3.0	5.9	103	112	20	62
1972	168	90	34.4	1.08	45	4.3	84	23	2.9	6.1	102	109	19	63
Southwest														
1971	48	88	32.7	1.04	44	4.0	84	22	3.8	6.5	102	114	35	55
1972	51	90	33.4	1.06	44	4.1	82	22	3.5	6.6	101	115	28	60
West														
1971	60	97	35.3	1.12	45	4.2	92	25	2.7	5.3	121	120	24	70
1972	60	95	34.8	1.09	45	4.4	90	24	2.6	5.5	110	121	17	66
Average														
1971	317	91	34.5	1.09	44	4.3	83	23	3.1	6.0	105	113	23	62
1972	340	90	34.3	1.08	45	4.3	84	23	3.0	6.1	104	111	20	64

1/ Based on a limited number of samples of modal quality

Table 1.--Continued

Area and Crop Year	Lots tested	Grade	Staple	Fiber test results					Processing test results								
				Fibrograph		Mike	Strength		Total non. lint	Picker & Card waste	Skein strength 22s	Appear- ance 22s	Yarn imperf. 22s	Spin. Potent.			
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage									
															In.	Pct.	Rdg.
LONG STAPLE - American upland														No.	No.		
Southeast																	
1971	16	85	35.4	1.14	43	4.3	79	22	4.2	9.7	102	109	22	65			
1972	19	88	34.6	1.12	43	4.3	85	24	3.6	8.5	106	102	24	68			
South Central																	
1971	3	85	37.0	1.22	43	4.5	83	24	5.3	9.6	113	107	20	70			
1972	4	87	36.8	1.16	44	4.0	88	24	4.2	8.8	116	100	20	75			
West																	
1971	21	2/ 98	36.9	1.16	44	3.6	91	26	2.6	9.1	127	96	29	78			
1972	15	96	36.7	1.17	44	3.6	91	25	2.5	7.2	126	91	26	86			
Average																	
1971	40	92	36.3	1.16	44	3.9	86	24	3.4	9.4	116	102	26	72			
1972	38	91	35.7	1.14	44	4.0	88	24	3.3	8.0	115	97	24	76			
U. S. UPLAND AVG.																	
1971	425	91	34.0	1.07	44	4.2	83	22	3.4	6.5	103	112	26	59			
1972	435	90	34.0	1.07	45	4.2	84	23	3.1	6.4	104	111	21	62			
EXTRA LONG STAPLE - American Pima																	
West																	
1971	25	4	44.4	1.45	31	3.8	99	33	2.7	8.5	65	112	3	Comber Waste			
1972	21	4	44.0	1.44	32	3.6	97	32	2.7	7.9	63	113	3	17.5			
														50's	Combed	Yarn	17.7

2/ Includes 6 lots of roller ginned cotton

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1971 and 1972

Area state and crop year	Spinning lots tested	Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	32d in.	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Gray- ness	Yellow- ness	Com- posite		
	No.	Index		In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
<b>SOUTHEAST</b>															
Medium staple:															
<u>Alabama</u>															
1971	30	90	34.2	1.08	45	4.4	79	22	6.5	2.9	2	3	96	6.0	61
1972	30	88	33.9	1.09	44	4.3	82	22	7.2	2.6	3	3	94	5.8	64
<u>Georgia</u>															
1971	17	87	34.1	1.06	45	4.4	78	21	6.0	3.2	3	3	93	6.7	60
1972	17	90	33.8	1.06	45	4.4	85	23	6.6	3.0	3	3	95	6.1	65
<u>North Carolina</u>															
1971	11	86	34.7	1.06	46	4.3	81	22	6.1	4.1	3	2	91	7.1	62
1972	4	87	35.0	1.10	46	4.0	81	24	7.6	4.3	3	2	93	7.8	70
<u>South Carolina</u>															
1971	10	82	35.2	1.12	44	4.2	78	22	6.1	4.7	4	2	90	7.7	65
1972	10	88	34.9	1.11	46	4.0	85	24	6.9	3.8	2	3	95	6.7	72
<u>Long staple:</u>															
<u>Alabama</u>															
1971	4	84	35.8	1.16	42	4.5	81	23	5.8	4.4	3	3	93	10.0	64
1972	6	87	34.2	1.07	43	4.2	85	24	6.7	3.3	3	3	92	9.0	62
<u>Georgia</u>															
1971	7	87	34.9	1.13	44	4.5	78	22	6.4	3.7	3	3	92	9.5	64
1972	7	90	34.7	1.12	44	4.6	86	24	6.8	3.6	3	3	93	8.3	66
<u>North Carolina</u>															
1971	1	80	36.0	1.13	41	4.1	76	19	6.5	3.0	4	3	85	9.6	59
1972	2	92	35.0	1.16	44	4.5	85	24	7.6	2.9	2	4	97	7.6	76
<u>South Carolina</u>															
1971	4	86	35.8	1.16	42	3.8	79	22	6.5	5.1	3	3	92	10.0	68
1972	4	85	35.0	1.15	42	4.0	84	24	7.4	4.4	3	3	95	9.1	76
<b>SOUTH CENTRAL</b>															
Medium staple:															
<u>Arkansas</u>															
1971	39	92	35.1	1.11	45	4.3	83	22	6.7	3.2	2	3	98	5.7	65
1972	47	88	34.2	1.08	45	4.4	85	23	6.8	3.3	3	2	90	6.2	61
<u>Louisiana</u>															
1971	21	93	34.4	1.09	45	4.2	80	22	7.2	3.0	2	3	97	5.7	60
1972	22	91	34.5	1.09	45	4.3	83	23	6.9	2.7	3	3	94	5.7	60
<u>Mississippi</u>															
1971	53	92	34.9	1.10	44	4.5	80	22	6.6	2.9	2	3	99	6.2	61
1972	64	90	34.6	1.09	44	4.3	85	23	7.3	2.9	2	3	97	6.3	67
<u>Missouri</u>															
1971	13	94	34.9	1.09	44	4.1	79	22	6.6	2.5	2	3	100	5.4	63
1972	13	90	33.8	1.06	44	3.9	79	21	7.5	2.4	3	3	94	6.1	62

Table 2.--Continued

Area state and crop year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
		Lbs. 50's	Lbs. 50's	Pct. 50's	Pct. 50's	Index 50's	Index 50's	No. 50's	No. 50's	Rd	+b	Index	Rd	-b	Index
SOUTHEAST															
Medium staple:															
Alabama															
1971	30	97	34	6.5	5.0	108	83	20	16	84.5	2.9	104	26.6	27.5	111
1972	30	101	35	6.3	4.7	102	79	17	13	83.5	3.7	99	27.9	26.2	103
Georgia															
1971	17	97	33	6.3	4.9	113	86	18	16	84.4	3.1	103	27.1	27.3	109
1972	17	103	35	6.2	4.6	108	84	14	12	83.5	3.7	99	28.0	26.2	103
North Carolina															
1971	11	101	35	6.4	5.0	110	87	21	16	83.6	3.0	102	26.7	27.4	110
1972	4	112	40	6.6	5.2	100	85	19	14	83.0	3.1	100	27.1	26.5	106
South Carolina															
1971	10	103	37	6.6	5.2	106	85	24	20	84.6	2.9	104	27.0	27.1	109
1972	10	114	42	6.7	5.2	102	80	18	15	84.4	3.4	102	27.0	26.7	107
Long staple:															
Alabama															
1971	4	103	37	6.1	4.8	110	82	22	16	84.1	3.0	103	26.7	27.5	110
1972	6	98	32	6.0	4.5	105	80	18	15	84.9	3.4	103	28.3	26.3	102
Georgia															
1971	7	102	36	6.4	5.2	110	87	21	19	84.5	3.2	103	26.8	27.0	108
1972	7	107	39	6.1	4.7	104	86	28	15	83.1	4.1	96	27.6	25.9	103
North Carolina															
1971	1	88	29	6.1	4.5	120	90	18	16	83.3	4.0	97	25.9	27.7	113
1972	2	114	44	6.6	5.4	105	90	23	15	84.1	4.3	98	26.3	27.0	110
South Carolina															
1971	4	106	38	6.7	5.4	102	82	25	21	84.5	2.8	104	27.4	26.5	106
1972	4	114	42	6.6	5.4	92	78	24	13	84.1	3.2	102	27.2	26.8	106
SOUTH CENTRAL															
Medium staple:															
Arkansas															
1971	39	109	38	6.3	4.7	119	94	23	16	84.5	2.9	104	26.4	27.4	111
1972	47	102	36	5.8	4.4	121	95	18	13	83.4	3.2	101	27.7	26.2	103
Louisiana															
1971	21	103	36	6.3	4.4	117	90	27	20	84.2	2.9	104	26.8	27.2	109
1972	22	101	37	6.0	4.6	121	92	20	14	84.3	2.9	104	27.9	26.6	105
Mississippi															
1971	53	101	35	6.6	5.2	105	83	18	15	84.5	2.7	105	26.6	27.6	111
1972	64	106	37	6.5	4.8	102	79	19	15	84.4	2.9	104	27.3	27.0	107
Missouri															
1971	13	104	36	7.0	5.4	110	88	17	15	84.9	3.0	105	26.2	27.6	112
1972	13	98	33	6.6	4.9	95	69	23	20	83.7	3.2	102	27.3	26.6	106

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1971 and 1972--Continued

Area state and crop year	Spinning lots tested	Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Gray- ness	Yellow- ness	Com- posite		
						No.			Index	32d in.				In.	Pct.
SOUTH CENTRAL (continued)															
Medium staple:															
Tennessee															
1971	15	91	34.1	1.06	45	4.4	79	21	6.6	3.1	2	3	99	6.3	59
1972	22	90	34.0	1.06	44	4.1	80	21	7.3	2.4	3	3	95	5.9	63
Long staple:															
Mississippi															
1971	3	85	37.0	1.22	43	4.5	83	24	5.9	5.3	2	3	97	9.6	70
1972	4	87	36.8	1.16	44	4.0	88	24	6.5	4.3	3	2	95	9.1	75
SOUTHWEST															
Short staple:															
South Texas															
1971	3	87	30.3	0.95	45	4.4	79	20	7.0	2.9	5	4	86	5.7	43
1972	3	89	31.3	0.94	44	4.6	77	20	7.2	3.2	4	4	91	6.7	45
Central Texas															
1971	18	88	30.3	0.97	45	5.0	81	20	6.7	3.6	4	4	90	6.5	37
1972	15	94	31.3	0.98	45	4.4	86	20	6.7	2.9	3	4	96	5.7	47
Northwest Texas															
1971	32	85	30.2	0.94	44	3.2	77	20	7.3	4.6	3	4	93	7.5	37
1972	33	88	31.3	0.98	45	3.9	77	21	7.0	3.9	3	4	92	7.0	45
Oklahoma															
1971	9	89	30.9	0.96	45	3.8	80	20	7.4	3.6	3	4	92	6.0	42
1972	3	93	32.0	0.97	45	4.5	80	20	7.0	2.9	3	3	94	5.9	46
Medium staple:															
South Texas															
1971	20	90	33.0	1.05	45	4.6	86	22	5.8	3.0	3	3	92	5.6	57
1972	18	91	33.7	1.06	46	4.4	84	22	6.2	3.1	2	3	95	6.2	63
Central Texas															
1971	7	93	34.3	1.12	44	4.5	85	22	6.6	3.0	3	3	96	5.4	62
1972	9	93	34.1	1.09	45	4.6	84	22	6.8	2.6	2	3	96	5.7	62
Northwest Texas															
1971	21	84	31.9	1.01	44	3.2	81	22	7.2	4.8	3	4	92	7.7	51
1972	21	89	32.8	1.04	43	3.6	80	22	6.7	4.2	3	3	96	7.5	55
WEST															
Short staple:															
New Mexico															
1971	6	80	29.5	0.86	45	2.9	83	20	6.4	6.9	3	3	92	9.6	32
1972	3	75	30.3	0.92	47	2.8	80	22	7.3	7.0	7	8	75	10.0	44
Medium staple:															
Arizona															
1971	12	97	34.8	1.11	44	4.3	82	23	7.1	2.6	2	3	100	5.3	59
1972	15	94	34.4	1.09	44	4.5	84	23	7.0	2.7	2	2	96	5.6	57

Table 2.--Continued

Area state and crop year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn				
		22s or 27 tex	Lbs.	22s or 27 tex	Pct.	Pct.	Index	Index	22s or 27 tex	No.	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
SOUTH CENTRAL (Continued)																	
Medium staple:																	
Tennessee																	
1971	15	97	33	6.6	5.1	114	91	16	13	84.6	2.9	105	26.1	27.8	113		
1972	22	97	33	6.4	4.7	103	79	19	14	83.9	3.5	101	27.3	26.6	106		
Long staple:																	
Mississippi																	
1971	3	113	42	6.5	5.4	107	83	20	18	84.3	2.8	104	26.7	27.8	112		
1972	4	116	43	6.0	4.9	100	75	20	14	84.1	3.0	103	27.4	27.0	107		
SOUTHWEST																	
Short staple:																	
South Texas																	
1971	3	88	292	5.6	7.3	120	126	25	36	83.8	3.4	101	27.3	27.2	108		
1972	3	85	284	6.4	7.4	110	123	34	52	86.0	3.4	106	26.1	27.4	111		
Central Texas																	
1971	18	84	286	5.6	6.7	120	126	26	39	84.1	3.2	103	27.0	27.4	110		
1972	15	96	312	6.0	7.0	121	125	19	33	85.1	3.5	103	27.1	26.8	107		
Northwest Texas																	
1971	32	86	294	6.5	7.5	107	117	47	76	84.4	3.9	100	27.6	26.2	104		
1972	33	93	305	6.4	7.7	115	120	31	51	83.6	4.0	98	26.7	26.5	107		
Oklahoma																	
1971	9	90	305	6.5	7.4	117	122	27	45	83.1	4.4	95	27.4	26.4	105		
1972	3	94	310	6.2	7.4	123	130	16	28	83.1	3.6	98	27.0	27.0	108		
Medium staple:																	
South Texas																	
1971	20	101	33	5.4	3.7	123	96	19	14	83.4	3.1	101	26.9	27.1	109		
1972	18	103	38	6.3	5.1	120	96	22	17	85.9	3.3	106	27.0	26.9	108		
Central Texas																	
1971	7	108	37	6.1	4.5	117	93	19	15	84.4	2.9	104	27.2	27.2	108		
1972	9	101	36	6.0	4.7	122	93	20	16	85.0	3.1	105	27.0	26.9	108		
Northwest Texas																	
1971	21	101	34	6.4	4.6	104	80	55	40	84.0	3.7	100	28.0	26.2	103		
1972	21	97	36	6.5	4.9	107	83	39	30	84.4	3.5	102	27.0	26.6	106		
WEST																	
Short staple:																	
New Mexico																	
1971	6	87	295	6.0	6.7	108	112	65	104	85.5	4.0	103	28.1	25.9	101		
1972	3	102	334	6.8	8.0	100	113	55	96	85.5	4.9	99	25.6	26.4	108		
Medium staple:																	
Arizona																	
1971	12	105	35	6.1	4.3	119	93	24	18	84.1	2.9	104	27.5	26.8	106		
1972	15	99	35	5.9	4.4	121	92	16	12	85.0	2.8	106	27.6	26.6	105		

Table 2.--Cotton:

[illegible]

Table 2.--Continued

Area state and crop year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Pct. Pct.	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect- ance	Yellow- ness	Com- posite Index	Reflect- ance	Blue- ness	Com- posite Index
	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
<b>WEST (continued)</b>															
Medium staple:															
California															
1971	42	128	47	5.6	4.2	121	92	23	17	83.4	3.1	101	26.1	27.3	111
1972	36	120	47	5.6	4.4	123	97	15	11	83.9	3.0	102	26.7	26.7	108
West Texas															
1971	6	100	34	6.2	4.4	117	92	31	22	83.6	3.4	100	27.7	26.6	105
1972	9	92	33	6.3	4.8	114	87	28	21	85.1	3.5	104	27.3	26.5	105
Long staple:															
New Mexico															
1971	12	129	49	6.5	5.4	93	73	30	28	84.4	3.2	103	26.6	27.0	109
1972	9	128	52	6.4	5.4	88	69	26	20	84.8	3.1	104	27.0	26.5	106
West Texas															
1971	6	125	47	6.8	5.5	100	73	30	25	84.8	3.0	104	26.4	27.2	110
1972	6	124	47	6.2	4.9	95	73	27	18	84.0	3.0	103	27.1	26.4	106

Table 3.--Cotton: Average results of fiber and carded yarn processing tests by grade and staple combinations for American upland samples from selected gin points, crop of 1972

Name	Code	32d in.	Spinning lots tested	Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock		Picker & card waste	Spinning Poten- tial
				2.5% span	In.	Pct.	Zero gage	1/8" gage			Gray- ness	Yellow- ness		
			No.				Mpsi	G/tex	Pct.	Pct.	No.	No.	Pct.	No.
SHORT STAPLE GROUP														
Southwest														
M	31	31	4	.95		45	84	20	6.4	2.7	2	4	5.6	44
M Lt Sp	32	32	4	.97		46	83	21	7.2	3.4	2	4	6.0	46
SLM	41	31	4	.96		45	76	20	6.8	2.8	2	3	6.6	45
SLM Lt Sp	42	31	9	.96		45	76	20	7.3	3.7	3	4	7.1	43
		32	12	1.00		45	78	21	6.9	3.3	3	4	6.5	47
		33	3	1.05		45	83	22	6.7	3.3	3	4	5.9	55
MEDIUM STAPLE GROUP														
Southeast														
SLM	41	33	4	1.04		45	84	22	7.0	2.3	2	3	5.4	59
		34	10	1.08		45	84	23	7.2	2.5	2	3	5.5	69
		35	7	1.10		46	83	23	7.1	2.9	2	3	6.1	69
SLM Lt Sp	42	33	4	1.03		44	82	21	6.4	2.0	3	3	5.6	54
		34	5	1.08		44	80	21	7.4	3.0	4	4	6.2	64
LM	51	33	7	1.04		45	82	21	6.8	3.0	3	3	6.4	59
		34	9	1.11		44	81	22	7.3	3.0	3	3	6.3	67
		35	12	1.12		46	87	24	6.6	3.8	3	2	6.8	72
South Central														
SLM	41	34	36	1.08		45	83	23	7.3	2.5	2	3	5.9	64
		35	46	1.10		45	84	23	7.4	2.4	2	3	5.6	66
SLM Lt Sp	42	34	5	1.05		44	82	21	6.8	2.5	3	3	6.0	58
LM	51	33	6	1.04		43	77	20	6.8	2.7	4	2	6.5	55
		34	43	1.08		44	83	22	6.7	3.3	4	2	6.5	61
		35	19	1.09		45	84	23	7.0	3.6	3	2	6.7	66
Southwest														
M Lt Sp	32	32	4	1.03		45	83	21	6.5	2.3	2	4	5.5	57
SLM	41	34	11	1.08		45	83	22	6.8	2.7	2	3	5.8	63
		35	5	1.11		44	79	22	7.2	3.3	2	3	6.3	67
SLM Lt Sp	42	32	5	1.03		44	80	22	6.6	3.6	3	3	7.3	55
		34	6	1.07		44	80	21	6.0	3.4	3	4	6.3	64
LM	51	34	6	1.09		45	84	23	6.8	4.0	4	3	6.6	64

Table 3.--Continued

Staple group, area, grade and staple			Spinning lots tested		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn						
Name	Code	32d in.	No.	22s or 27 tex	lbs.	Second number	Pct.	22s or 27 tex	Pct.	22s or 27 tex	Index	Second number	22s or 27 tex	No.	Rd	Reflect-ance	Yellow-ness	Com-posite	Rd	-b	Index	Com-posite
SHORT STAPLE GROUP																						
Southwest																						
M	31	32	4	92	8s 306	6.0	7.0	8s 122	120	19	8s 33	84.5	3.4	102	26.7	26.6	107					
M Lt Sp	32	32	4	96	308	6.3	7.3	125	120	26	44	84.8	3.6	102	26.4	27.4	110					
SIM	41	31	4	94	312	6.4	7.6	122	120	27	47	83.7	3.4	100	26.0	27.1	110					
SIM Lt Sp	42	31	9	89	293	6.6	7.7	120	111	33	52	83.8	4.0	99	27.3	26.4	105					
	32	32	12	94	304	6.4	7.5	124	119	26	42	83.6	3.8	99	26.9	26.8	107					
	33	33	3	101	326	6.3	7.7	120	120	20	35	84.1	3.8	100	26.9	26.8	108					
MEDIUM STAPLE GROUP																						
Southeast																						
SIM	41	33	4	94	50's 30	5.8	4.3	50's 80	105	12	50's 10	83.8	3.7	100	27.3	26.7	106					
		34	10	107	38	6.6	5.0	81	107	18	13	84.5	3.2	103	27.0	27.0	108					
		35	7	109	40	6.6	5.1	80	103	19	15	84.5	3.3	103	27.0	26.7	106					
SIM Lt Sp	42	33	4	90	28	5.8	4.1	82	105	12	11	82.6	4.4	94	28.4	25.5	99					
		34	5	98	34	6.5	4.8	82	108	16	15	83.5	4.8	95	27.3	26.3	104					
IM	51	33	7	92	30	6.0	4.3	84	106	13	11	83.2	3.7	98	28.3	26.0	101					
		34	9	103	36	6.6	4.8	76	98	18	16	83.6	3.4	100	28.4	25.9	101					
		35	12	115	42	6.5	4.9	81	102	17	12	83.2	3.3	100	27.8	26.2	102					
South Central																						
SIM	41	34	36	103	36	6.4	4.7	85	110	17	14	84.6	3.1	104	27.1	27.0	108					
		35	46	107	39	6.5	5.0	85	111	17	12	84.9	2.8	106	26.8	27.4	110					
SIM Lt Sp	42	34	5	95	31	6.1	4.3	82	102	15	13	83.8	3.5	100	28.2	26.1	102					
IM	51	33	6	88	28	5.9	4.4	70	102	24	19	81.4	3.4	95	28.3	25.3	99					
		34	43	98	34	5.9	4.3	83	109	22	16	83.1	3.2	100	28.1	25.9	101					
		35	19	105	37	6.2	4.7	85	107	19	15	84.1	2.9	104	27.8	26.7	105					
Southwest																						
M Lt Sp	32	32	4	97	34	6.2	4.8	98	128	17	15	85.4	3.3	106	26.6	27.0	109					
SIM	41	34	11	103	38	6.3	5.1	93	118	23	18	85.2	3.2	105	26.9	27.2	109					
		35	5	107	41	6.7	5.4	88	116	31	24	85.5	3.0	106	26.3	27.2	110					
SIM Lt Sp	42	32	5	97	35	6.4	4.8	86	112	31	25	84.5	3.6	102	27.3	26.4	105					
		34	6	100	37	6.5	5.1	88	110	32	25	85.4	3.6	104	27.4	26.4	105					
IM	51	34	6	105	38	6.4	4.8	95	122	21	15	84.6	3.2	103	27.5	26.4	105					

Table 3.--Cotton: Average results of fiber and carded yarn processing tests by grade and staple combinations for American upland samples from selected gin points, crop of 1972--(Continued)

Staple group, area, grade and staple	Spinning lots tested	Fiber length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Gray-ness	Yellow-ness	Com-posite		
Name	Code	32d in.	No.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Index	Pct.	No.
MEDIUM STAPLE GROUP (Continued)													
West													
M	31	34	4	1.08	44	4.8	87	23	6.2	2.0	1	4.8	55
	35	35	10	1.09	46	4.4	95	26	5.8	2.3	1	5.3	70
	36	36	5	1.11	46	4.3	94	26	6.2	2.0	1	5.0	74
SLM	41	34	9	1.08	43	4.4	82	22	7.0	2.8	2	5.8	57
	35	35	11	1.10	45	4.3	90	24	6.2	2.6	2	5.5	66
	36	36	10	1.12	46	4.3	96	26	5.5	2.7	2	5.4	75
LM	51	35	3	1.11	46	4.3	93	27	5.3	3.1	4	6.0	71
LONG STAPLE GROUP													
Southeast													
SLM	41	35	3	1.14	44	4.5	88	23	7.2	2.6	2	7.3	75
SLM Lt Sp	42	35	4	1.14	45	4.7	84	24	7.0	4.0	3	8.2	68
LM	51	34	4	1.08	42	4.2	86	23	6.9	3.5	3	8.6	62
	35	35	5	1.14	43	4.0	85	24	7.1	4.4	3	9.1	75
West													
M	31	37	3	1.18	45	3.9	92	26	6.5	1.9	1	6.4	85
SLM	41	36	3	1.16	43	3.5	90	24	6.0	2.8	2	7.7	83
	37	37	8	1.17	43	3.7	90	25	6.5	2.7	2	7.4	88

Table 3.--Continued

Staple group, area, grade and staple	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect- ance	Yellow- ness	Com- posite Index	Reflect- ance	Blue- ness	Com- posite Index
Name	Code	32d in.	No.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
MEDIUM STAPLE GROUP (Continued)															
West M	31	34	4	5.5	4.0	120	92	15	12	84.6	2.8	105	27.7	26.6	105
	35	48	10	5.6	4.6	123	97	14	10	84.2	3.0	104	26.2	27.2	110
	36	49	5	5.9	4.8	122	98	12	11	84.1	2.8	104	25.1	27.6	114
SIM	41	34	9	6.0	4.3	122	93	18	13	84.8	3.0	105	27.8	26.4	104
	35	42	11	5.9	4.5	123	95	17	12	84.2	3.1	103	27.3	26.4	105
	36	49	10	5.8	4.4	123	98	14	10	83.8	3.1	102	26.6	26.7	108
LM	51	35	3	5.8	4.5	123	97	21	15	83.0	3.3	99	28.2	25.7	101
LONG STAPLE GROUP															
Southeast SIM	41	35	3	6.5	5.1	100	87	32	12	84.4	4.0	100	26.6	26.7	108
SIM It Sp	42	35	4	6.2	5.0	105	90	27	15	83.0	4.2	96	27.8	26.6	107
LM	51	34	4	6.1	4.6	105	80	15	14	84.4	3.7	101	29.0	26.0	100
	35	42	5	6.5	5.2	94	76	25	16	84.4	3.2	103	27.0	26.9	107
West M	31	37	3	6.3	5.3	90	70	22	18	85.4	3.0	106	26.4	27.3	110
SIM	41	36	3	6.2	4.8	100	77	22	14	83.2	3.1	101	27.6	25.7	102
	37	52	8	6.4	5.3	89	70	30	22	84.7	3.1	104	26.9	26.5	106

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1972

Processing group, variety, and state	Spinning lots tested	Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential						
		Grade	Index	32d in.	In.		Zero gage	1/8" gage			G/tex	Pct.	Pct.			No.	No.	Index			
					2.5% span	50/2.5 unif.			Rdg.	Mpsi				Pct.	Pct.				No.	No.	Index
SHORT STAPLE																					
Lankart 57 Northwest Texas	3	92	31.7	1.00	44	3.1	71	20	8.1	4.2	2	4	97	6.9	46						
Lankart IX-57L Central Texas	6	91	32.0	1.01	46	4.2	86	21	6.6	3.4	3	4	94	6.1	51						
Northwest Texas	6	91	32.0	1.01	45	4.8	80	22	6.6	3.4	3	4	91	6.4	47						
Lankart 61L Northwest Texas	3	88	31.0	0.98	45	4.2	74	20	8.1	3.9	3	3	90	7.1	44						
MEDIUM STAPLE																					
Acala SJ-1 California	21	96	35.6	1.11	46	4.3	96	26	5.5	2.5	2	3	99	5.4	74						
Acala 4-42 California	3	98	35.0	1.08	47	4.4	95	26	5.8	2.6	2	3	100	5.7	71						
Auburn M Missouri	4	90	33.8	1.06	44	3.9	80	22	7.1	2.6	3	3	94	6.2	62						
Brycot #4 Arkansas	3	91	34.3	1.10	46	4.3	88	21	5.9	2.8	2	3	95	6.3	60						
Coker 201 Alabama	2	92	33.0	1.03	45	4.6	83	22	5.8	1.8	3	3	96	5.7	50						
Georgia	3	91	33.7	1.07	47	4.7	86	24	6.6	2.9	2	3	97	5.8	69						
South Carolina	7	90	34.9	1.10	46	4.2	84	23	7.0	3.9	2	2	96	6.8	70						
Coker 312 Northwest Texas	3	92	34.7	1.13	40	3.3	77	22	7.1	3.7	2	3	99	6.7	61						
Coker 417 Alabama	4	87	35.0	1.14	44	4.0	88	25	6.4	2.7	3	2	94	5.8	74						
South Carolina	3	83	35.0	1.12	45	3.7	88	25	6.7	3.4	3	3	94	6.5	77						
Coker 5110 Northwest Texas	3	92	34.3	1.09	42	3.2	75	22	7.4	3.9	2	3	99	7.1	62						
Deltapine 16 Arkansas	13	91	34.6	1.10	45	4.3	85	24	7.8	3.1	3	2	94	5.9	65						
Louisiana	10	92	34.6	1.10	45	4.2	84	23	7.4	2.6	2	2	95	5.6	59						
Mississippi	23	91	34.8	1.10	44	4.2	84	24	7.8	2.7	2	2	99	6.2	70						
Arizona	12	93	34.5	1.09	44	4.5	84	23	7.0	2.8	2	2	95	5.7	58						
West Texas	3	95	34.7	1.09	45	4.4	79	21	7.5	2.7	2	3	97	5.3	61						

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn			
		22s or 27 tex	Lbs.	22s or 27 tex	Pct.	Index	22s or 27 tex	Index	22s or 27 tex	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
SHORT STAPLE																
<u>Lankart 57</u> Northwest Texas	3	91	$\frac{8s}{299}$	7.6	$\frac{8s}{8.9}$	100	$\frac{8s}{113}$	47	$\frac{8s}{72}$	84.7	3.9	101	26.9	26.5	106	
<u>Lankart IX-571</u> Central Texas	6	98	318	6.1	7.0	120	122	21	35	85.0	3.6	102	27.2	26.6	106	
Northwest Texas	6	95	306	6.0	7.1	120	125	22	36	82.5	4.0	95	27.6	26.4	104	
<u>Lankart 611</u> Northwest Texas	3	90	298	6.6	7.9	117	120	31	48	81.9	4.7	91	27.0	25.8	103	
MEDIUM STAPLE																
<u>Acala SJ-1</u> California	21	122	$\frac{50s}{49}$	5.6	$\frac{50s}{4.5}$	123	$\frac{50s}{98}$	14	$\frac{50s}{10}$	84.0	3.0	103	26.5	26.8	108	
<u>Acala 4-42</u> California	3	123	48	5.8	4.5	127	100	13	9	83.7	3.0	102	26.6	26.9	108	
<u>Auburn M</u> Missouri	4	99	34	6.6	4.8	102	72	23	20	84.2	3.4	102	27.4	26.7	106	
<u>Brycot #4</u> Arkansas	3	97	34	5.4	3.9	120	90	20	15	84.0	2.9	103	26.7	26.8	107	
<u>Coker 201</u> Alabama	2	84	26	5.3	4.0	110	85	12	10	83.6	3.0	102	27.6	26.3	104	
Georgia	3	109	36	6.3	4.6	110	90	16	12	83.3	3.4	99	26.4	26.7	108	
South Carolina	7	110	41	6.7	5.1	104	81	18	15	84.6	3.2	104	26.8	27.1	109	
<u>Coker 312</u> Northwest Texas	3	103	39	7.0	5.3	100	77	45	36	84.5	3.4	102	26.2	27.0	110	
<u>Coker 417</u> Alabama	4	116	44	6.3	4.8	98	75	24	13	82.9	3.6	98	28.5	25.4	98	
South Carolina	3	123	47	6.7	5.2	97	77	18	14	83.7	3.9	99	27.5	25.8	102	
<u>Coker 5110</u> Northwest Texas	3	99	38	7.1	5.5	93	73	53	42	84.1	3.3	102	26.9	26.7	107	
<u>Deltapine 16</u> Arkansas	13	109	40	6.2	5.0	122	96	18	12	83.8	3.1	102	27.4	26.3	104	
Louisiana	10	105	39	6.2	4.8	122	91	21	15	84.0	2.8	104	28.1	26.6	104	
Mississippi	23	110	40	6.7	5.1	101	79	19	15	84.6	2.7	105	27.3	27.1	108	
Arizona	12	99	35	5.9	4.4	121	92	16	12	84.9	2.9	105	27.6	26.7	106	
West Texas	3	95	34	6.2	4.7	120	93	21	16	84.6	3.5	102	27.3	26.4	105	

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1972--Continued

Processing group, variety, and state	Spinning lots tested	Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple 32d in.	In.	Pct.		Zero gage	1/8" gage			Gray- ness	Yellow- ness	Com- posite		
MEDIUM STAPLE (Continued)															
<u>Deltapine 45A</u> Missouri	1	85	35.0	1.07	45	3.9	75	22	7.9	3.4	2	3	97	7.0	64
<u>Dixie King II</u> Georgia	4	87	33.2	1.01	45	4.6	84	21	6.0	2.9	4	3	92	6.2	57
<u>Dixie King III</u> Mississippi	3	85	34.7	1.05	46	4.4	94	25	5.8	3.7	3	3	93	7.3	71
<u>Lockett EXL</u> Northwest Texas	3	85	32.7	1.04	46	4.8	88	23	5.8	3.9	3	3	91	7.3	55
<u>Lockett 4789A</u> Northwest Texas	6	90	32.2	1.05	44	3.8	81	22	6.6	3.5	3	4	95	6.8	57
West Texas	3	89	31.7	1.01	43	3.8	79	21	6.7	3.7	4	4	90	6.9	47
<u>McNair 511</u> North Carolina	4	87	35.0	1.10	46	4.0	81	24	7.6	4.3	3	2	93	7.8	70
<u>Quapaw</u> Arkansas	2	78	31.5	0.97	46	4.7	94	22	4.3	4.0	6	3	80	7.6	44
<u>Stoneville 7A</u> Arkansas	3	85	34.7	1.09	44	4.2	84	21	6.0	4.1	3	3	90	7.0	59
Mississippi	3	91	34.3	1.08	43	4.4	93	22	5.8	3.3	2	3	99	6.8	63
Central Texas	3	94	33.7	1.07	45	5.1	88	21	5.9	2.4	2	3	97	5.6	56
<u>Stoneville 213</u> Alabama	3	85	33.3	1.06	45	4.6	77	21	7.2	3.3	4	3	91	6.7	60
Arkansas	15	88	34.2	1.08	45	4.6	84	22	6.6	3.3	3	3	91	6.1	60
Louisiana	3	91	34.3	1.07	46	4.5	83	23	6.6	3.3	3	2	94	6.0	60
Mississippi	18	89	34.5	1.08	44	4.5	85	23	6.8	3.1	2	3	96	6.6	63
Missouri	4	87	33.5	1.05	44	3.9	76	20	7.0	2.7	4	2	90	6.2	57
West Texas	3	95	34.0	1.10	43	3.9	75	21	8.3	2.9	2	3	99	5.7	62
<u>TPSA 1633</u> South Texas	3	89	34.0	1.06	45	3.9	80	21	5.2	3.2	3	4	91	5.8	64
LONG STAPLE															
<u>Acala 1517-V</u> New Mexico	6	94	37.0	1.18	45	3.6	88	25	6.4	2.8	1	3	101	7.4	90
<u>Acala 1517-70</u> New Mexico	3	100	36.7	1.17	43	3.4	92	26	6.3	1.9	1	3	103	6.4	85

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn				
		22s or 27 tex	Lbs.	22s or 27 tex	Pct.	Second number	Index	22s or 27 tex	Index	22s or 27 tex	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
MEDIUM STAPLE (Continued)																	
<u>Deltapine 45A</u> Missouri	1	99	35	6.8	5.3	90	70	24	14	84.2	2.9	104	26.0	27.2	111		
<u>Dixie King II</u> Georgia	4	90	28	5.6	4.0	118	90	10	8	82.8	4.2	95	28.9	25.9	100		
<u>Dixie King III</u> Mississippi	3	112	40	5.8	4.4	103	80	21	14	83.3	3.0	102	27.3	26.8	106		
<u>Lockett BXL</u> Northwest Texas	3	103	37	5.8	4.3	123	97	20	13	83.3	3.2	101	27.7	26.4	104		
<u>Lockett 4789A</u> Northwest Texas West Texas	6 3	100 85	36 29	6.5 5.8	4.8 4.5	115 103	88 77	30 42	24 33	84.5 84.8	3.5 3.8	102 102	27.3 27.6	26.6 26.0	105 103		
<u>McNair 511</u> North Carolina	4	112	40	6.6	5.2	100	85	19	14	83.0	3.1	100	27.0	26.5	106		
<u>Quapaw</u> Arkansas	2	93	29	4.6	3.2	120	100	16	12	78.9	4.6	84	29.5	24.0	91		
<u>Stoneville 7A</u> Arkansas Mississippi Central Texas	3 3 3	99 101 95	35 33 31	5.7 5.8 5.3	4.1 4.1 3.9	117 100 127	90 77 97	19 14 18	14 15 13	84.4 84.3 84.7	3.1 3.0 3.1	104 104 104	27.0 27.3 26.4	27.0 26.9 27.4	108 107 111		
<u>Stoneville 213</u> Alabama Arkansas Louisiana Mississippi Missouri West Texas	3 15 3 18 4 3	91 100 102 100 91 95	30 35 37 34 30 35	6.4 5.8 6.0 6.2 6.3 6.8	4.7 4.3 4.5 4.5 4.6 5.1	97 121 120 99 90 120	87 96 93 77 68 90	18 18 22 22 24 21	15 12 15 17 22 15	83.7 83.8 85.0 84.0 82.8 85.8	3.7 3.1 2.9 2.9 3.2 3.1	99 102 105 103 99 107	27.7 27.6 27.9 27.6 27.4 27.0	26.3 26.3 26.7 26.8 26.2 27.0	104 104 105 106 104 108		
<u>TPSA 1633</u> South Texas	3	99	36	6.3	4.9	117	93	26	19	86.5	3.7	106	28.2	26.2	103		
LONG STAPLE																	
<u>Acala 1517V</u> New Mexico	6	127	53	6.5	5.4	88	70	28	22	84.7	3.1	104	27.0	26.4	106		
<u>Acala 1517-70</u> New Mexico	3	130	50	6.3	5.3	87	67	23	17	85.2	3.1	105	26.9	26.8	107		

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1972--Continued

[illegible]

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite		
No.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index		
LONG STAPLE (Continued)															
Coker 310															
Alabama	3	97	5.8	4.3	100	73	20	18	84.8	3.3	103	28.5	26.2	102	
Georgia	7	107	6.1	4.7	104	86	28	15	83.1	4.1	96	27.6	25.9	103	
North Carolina	2	114	6.6	5.4	105	90	23	15	84.1	4.3	98	26.3	27.0	110	
South Carolina	4	114	6.6	5.4	92	78	24	13	84.1	3.2	102	27.2	26.8	106	
Mississippi	4	116	6.0	4.9	100	75	20	14	84.1	3.0	103	27.4	27.0	107	
EXTRA LONG STAPLE															
Combed Yarns															
Del Cerro	3	50s 64	50s 4.7	80s 4.2	50s 100	80s 100	50s 6	80s 4	84.2	2.7	105	28.3	27.4	107	
Arizona															
Pima S-4															
Arizona	3	64	5.5	4.8	123	120	2	1	84.2	4.6	97	27.5	26.2	104	
West Texas	2	62	5.8	5.0	105	110	2	2	83.5	4.2	96	28.1	26.4	104	

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1972

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
SOUTH TEXAS													
TAFI													
LANKART 611													
SLM LT SP 42	32	0.94	45	4.7	81	20	6.9	2.2	3.1	3	4	92	6.4
SLM LT SP 42	31	0.94	45	4.6	73	20	7.3	2.7	3.7	4	4	91	7.1
SLM LT SP 42	31	0.95	43	4.6	76	20	7.4	1.9	2.8	4	4	90	6.7
CENTRAL TEXAS													
FORNEY													
LANKART 57													
M 31	30	0.95	44	4.4	86	21	6.1	1.5	2.3	1	4	102	4.6
M 31	31	0.97	46	4.6	89	20	6.6	1.4	2.3	2	4	100	5.0
M LT SP 32	30	0.91	46	4.7	88	19	6.6	1.4	2.5	2	4	98	5.9
ITASCA													
LANKART LX 571													
M LT SP 32	32	0.98	44	3.5	88	21	6.3	2.6	3.9	3	5	97	6.4
SLM LT SP 42	31	0.97	46	4.6	86	20	6.6	2.0	3.0	4	4	91	6.4
SLM LT SP 42	30	0.96	46	4.5	86	20	6.0	2.7	3.8	4	4	90	7.0
MCKINNEY													
LANKART 57													
M 31	31	0.94	44	3.8	88	20	6.8	1.7	2.7	2	5	99	5.5
M 31	30	0.93	46	4.4	87	20	7.0	1.3	2.2	2	4	100	5.4
SLM 41	30	0.95	46	5.3	90	20	6.2	2.2	3.2	3	4	96	5.9
TEMPLE													
LANKART 57													
SLM 41	32	0.99	45	4.2	84	22	6.8	1.6	2.2	2	4	97	5.4
SLM LT SP 42	32	1.01	46	4.6	83	20	7.3	2.1	3.0	3	4	95	5.8
SLM LT SP 42	32	0.99	45	4.7	80	20	7.1	1.8	2.8	3	4	93	5.5
WACO													
LANKART LX 571													
SLM LT SP 42	33	1.03	45	4.6	88	22	6.5	2.2	3.2	3	4	94	5.8
SLM 41	33	1.06	46	4.4	85	21	6.9	1.6	2.5	2	4	99	5.4
SLM LT SP 42	33	1.04	46	3.9	83	21	7.0	2.6	3.8	3	4	94	5.8
NORTHWEST TEXAS													
ANSON													
LANKART 611													
LM 51	31	0.97	44	4.1	74	20	8.2	2.3	4.0	4	3	88	7.1
SLM LT SP 42	31	0.99	46	4.2	75	21	8.0	2.8	4.4	3	3	91	7.0
SLM LT SP 42	31	0.99	45	4.3	74	20	8.0	2.2	3.4	3	4	91	7.1

\* 100 percent selected for tests, less than 100 percent in the area

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1972 --Continued

State, Production Area Chronological sampling and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning	Color - 22s gray yarn		Color-22s bleichd.yarn		Color - 22s dyed yarn						
Grade	Staple	Code	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	Poten- tial	Reflect-Yellow- ance	Reflect-Yellow- ness	Com- posite	Reflect-Yellow- ance	Reflect-Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite		
			Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index		
SOUTH WEST																						
SOUTH TEXAS																						
TAFT																						
95 PERCENT																						
LANKART 611																						
SLM	LT	SP	42	32	296	88	7.5	6.5	130	120	47	32	46	65.6	11.6	88	85.7	3.5	105	26.0	27.6	112
SLM	LT	SP	42	31	281	83	7.5	6.5	120	100	60	40	42	66.2	11.7	90	86.0	3.3	106	26.6	26.7	108
SLM	LT	SP	42	31	274	84	7.1	6.1	120	110	49	30	46	66.3	11.9	91	86.2	3.4	106	25.8	28.0	114
CENTRAL TEXAS																						
FORNEY																						
99 PERCENT																						
LANKART 57																						
M		31	30	305	95	6.8	5.9	130	120	29	17	43	69.7	13.1	103	87.0	3.4	108	26.3	27.4	111	
M		31	31	313	95	6.7	6.1	130	120	27	12	47	69.2	12.3	99	84.9	3.7	102	27.0	27.1	108	
M	LT	SP	32	30	286	89	6.3	5.5	120	120	29	14	38	66.0	12.1	91	84.3	3.5	102	27.2	26.9	107
ITASCA																						
100 PERCENT																						
LANKART LX 571																						
M	LT	SP	32	32	317	99	6.8	6.1	120	120	50	29	49	67.1	13.2	98	86.9	3.5	108	25.9	27.2	111
SLM	LT	SP	42	31	288	88	6.3	5.8	130	120	28	18	44	64.6	12.1	88	84.0	3.7	100	28.2	26.3	103
SLM	LT	SP	42	30	289	90	6.3	5.7	120	120	33	23	44	65.6	12.3	91	84.0	3.6	100	28.1	25.9	101
MCKINNEY																						
99 PERCENT																						
LANKART 57																						
M		31	31	312	95	7.0	6.1	120	120	39	24	44	69.4	12.9	102	85.4	3.6	104	26.5	25.7	104	
M		31	30	301	90	8.9	5.8	130	120	27	20	42	69.3	12.2	99	85.1	3.3	104	27.2	27.5	110	
SLM		41	30	302	93	6.5	5.5	130	130	23	15	41	67.4	11.8	93	82.8	3.3	99	27.3	27.5	109	
TEMPLE																						
87 PERCENT																						
LANKART 57																						
SLM		41	32	326	103	7.2	6.5	130	120	32	18	51	68.9	12.4	99	85.7	3.4	105	26.8	27.0	108	
SLM	LT	SP	42	32	318	99	7.0	6.3	130	120	38	25	49	67.4	12.6	97	86.5	3.4	107	27.3	27.2	108
SLM	LT	SP	42	32	308	96	7.2	6.2	120	120	39	21	48	68.0	12.7	98	84.4	3.5	102	27.2	26.9	107
WACO																						
100 PERCENT *																						
LANKART LX 571																						
SLM	LT	SP	42	33	347	107	7.5	6.3	120	120	31	18	59	69.0	12.5	99	85.4	3.8	103	26.7	27.3	110
SLM		41	33	335	105	7.3	6.3	120	120	29	17	57	70.1	12.3	101	85.7	3.5	105	26.9	26.3	105	
SLM	LT	SP	42	33	332	102	7.8	6.5	120	120	38	20	54	69.1	12.5	99	83.7	3.8	99	27.6	26.6	105
NORTHWEST TEXAS																						
ANSON																						
100 PERCENT																						
LANKART 611																						
L		51	31	296	91	7.8	6.3	120	110	58	33	45	66.4	11.3	89	82.6	4.3	94	26.6	25.5	103	
SLM	LT	SP	42	31	296	89	8.0	6.9	120	120	46	32	44	66.8	11.1	89	81.7	5.0	89	26.9	26.2	105
SLM	LT	SP	42	31	301	91	8.0	6.7	120	120	41	29	44	67.2	11.0	90	81.4	4.8	90	27.6	25.8	102

\* 100 percent selected for tests, less than 100 percent in the area

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name		32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
NORTHWEST TEXAS													
BIG SPRING													
WESTERN STORMPROFF													
90 PERCENT													
M	31	0.94	44	4.1	80	20	5.9	1.6	2.9	2	3	100	5.7
M	31	0.96	45	4.1	77	20	6.2	1.6	2.9	2	3	100	6.1
SLM	41	0.97	46	4.0	78	20	5.9	1.5	2.5	2	3	99	6.1
BROWNFIELD													
LANKART 57													
100 PERCENT*													
M LT SP	32	1.02	46	3.2	74	21	8.0	2.5	4.1	2	4	99	5.8
SLM LT SP	42	1.01	44	3.5	71	19	7.8	2.5	3.8	2	3	97	6.8
SLM LT SP	42	0.96	43	2.7	69	20	8.6	3.1	4.8	3	4	94	8.0
BURKBURNETT													
LANKART LX 571													
100 PERCENT													
M LT SP	32	0.97	46	5.1	86	21	7.0	1.9	3.0	2	4	98	5.9
SLM LT SP	42	0.97	46	4.8	81	21	6.6	2.1	3.5	4	4	86	6.7
SLM LT SP	42	0.99	45	5.0	80	22	6.2	1.6	3.0	4	4	87	6.9
COTTON CENTER													
STRIPPER 31													
80 PERCENT													
SLM LT SP	42	0.90	45	3.2	78	20	6.8	2.6	4.1	3	4	93	8.4
1/LM SP	53	0.97	46	2.9	74	20	6.9	4.9	6.3	4	5	87	9.6
1/LM SP	53	0.92	44	3.0	76	21	6.8	5.8	7.4	5	6	83	9.5
LARIAT													
RILCOT 90													
75 PERCENT													
LM SP	53	0.89	46	3.3	82	22	7.2	4.6	6.2	5	6	83	8.0
SLM TG	44	0.91	43	3.0	76	22	7.0	2.4	4.8	6	7	79	8.1
SLM TG	44	0.94	46	3.0	77	22	7.4	2.8	4.7	6	7	77	7.8
LOCKNEY													
STRIPPER 31													
80 PERCENT													
SLM	41	0.94	45	3.6	77	21	7.5	1.8	2.8	2	3	98	6.6
SLM	41	0.97	44	3.7	76	21	7.3	1.5	2.5	2	3	99	6.0
SLM	41	0.95	44	3.8	73	20	6.6	2.1	3.4	2	3	98	7.7
PADUCAH													
LANKART 57													
90 PERCENT													
SLM LT SP	42	1.01	45	4.3	75	20	7.3	2.0	3.4	4	4	90	6.9
SLM LT SP	42	1.07	44	4.3	79	22	6.6	1.6	3.0	4	4	90	6.1
SLM LT SP	42	1.06	43	4.2	72	21	6.9	1.8	3.6	4	4	90	7.2

\* 100 percent selected for tests, less than 100 percent in the area  
1/ reduced from 43 because of bark

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area Chronological sampling and Classification				Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s blchd.yarn		Color - 22s dyed yarn				
Grade	Code	32d in.	Lbs.	8s or 7 1/4 tex	22s or 27 tex	8s or 7 1/4 tex	22s or 27 tex	8s or 7 1/4 tex	22s or 27 tex	8s or 7 1/4 tex	22s or 27 tex		Rd	+b	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
SOUTH WEST																					
NORTHWEST TEXAS																					
BIG SPRING																					
WESTERN STORMPROFF																					
90 PERCENT																					
M	31	31	301	90	7.1	5.9	120	120	31	21	42	69.7	11.1	96	84.0	3.3	102	26.9	26.6	107	
M	31	31	298	89	7.0	5.9	120	120	34	19	43	69.2	11.3	96	83.9	3.2	102	26.4	27.0	109	
SLM	41	31	304	94	7.0	5.9	130	120	33	22	45	68.4	11.4	94	83.2	3.3	100	25.6	27.1	111	
100 PERCENT*																					
BROWNFIELD																					
LANKART 57																					
M LT SP	32	32	300	93	8.3	7.2	120	120	57	34	47	69.2	12.2	99	85.0	4.2	100	26.3	27.0	109	
SLM LT SP	42	32	302	92	8.7	7.3	120	110	59	41	48	68.6	11.5	95	83.8	3.5	100	26.7	26.7	107	
SLM LT SP	42	31	294	87	9.6	8.2	100	70	100	67	42	66.9	12.4	95	85.2	4.0	102	27.7	25.9	102	
100 PERCENT																					
BURKBURNETT																					
LANKART LX 571																					
M LT SP	32	32	306	95	7.0	5.9	130	120	42	24	44	67.6	11.9	94	84.0	3.3	102	25.5	28.1	115	
SLM LT SP	42	31	299	94	7.1	5.8	130	120	38	20	44	64.8	11.4	86	82.2	3.9	95	28.8	26.0	100	
SLM LT SP	42	32	294	91	6.7	5.9	130	120	29	20	44	64.1	11.2	85	80.4	4.2	90	28.1	25.2	99	
80 PERCENT																					
COTTON CENTER																					
STRIPPER 31																					
SLM LT SP	42	31	309	92	7.9	6.6	120	120	64	36	42	64.9	13.4	94	85.0	4.0	101	25.5	27.4	113	
SLM LT SP	53	32	324	96	8.4	7.7	100	90	94	50	40	62.0	13.7	87	85.8	4.1	103	24.6	27.3	114	
SLM LT SP	53	32	313	93	8.1	6.9	120	110	65	46	37	62.7	13.3	87	84.2	4.9	96	25.6	26.0	107	
75 PERCENT																					
LARIAT																					
RILCOT 90																					
LM SP	53	30	336	99	7.5	6.4	120	110	65	42	43	59.9	13.6	83	84.5	3.6	102	25.2	26.3	109	
SLM TG	44	30	314	93	7.9	6.5	110	90	90	52	43	54.9	14.1	75	85.6	4.3	101	25.8	26.3	108	
SLM TG	44	30	310	94	8.2	7.0	110	110	63	41	44	52.7	14.0	73	86.0	4.4	102	26.7	26.4	106	
80 PERCENT																					
LOCKNEY																					
STRIPPER 31																					
SLM	41	31	310	94	7.5	6.4	120	120	53	33	47	70.5	11.6	99	84.0	3.5	101	27.0	27.1	108	
SLM	41	31	320	96	8.1	6.6	120	120	64	30	45	71.1	11.6	100	84.8	3.6	102	26.0	27.0	110	
SLM	41	31	312	92	7.9	6.6	120	120	39	22	43	69.1	11.0	94	82.7	3.3	99	25.2	27.1	112	
90 PERCENT																					
PADUCAH																					
LANKART 57																					
SLM LT SP	42	32	302	95	7.2	6.2	120	120	58	28	52	64.9	11.0	86	83.0	4.1	96	26.8	27.6	111	
SLM LT SP	42	33	298	94	7.9	6.2	120	120	36	21	52	66.1	11.3	89	83.2	3.9	97	26.4	26.6	108	
SLM LT SP	42	32	299	91	7.6	6.6	120	120	50	33	51	66.9	11.4	91	83.4	3.7	99	25.7	27.0	111	

\* 100 percent selected for tests, less than 100 percent in the area  
1/ reduced from 43 because of bark

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer			Color of raw stock			Picker & Card waste	
Grade	Code	32d in.	2.5% span length	50/2.5 unif.		Pct.	Rdg.		Mpsi	G/tex	Pct.	Visible waste	Total waste	Gray- ness		Yellow- ness
Name	Code	In.	Pct.												Pct.	
SOUTH WEST																
NORTH-WEST TEXAS																
RULE																
LANKART LX 571																
SLM	41	33	1.06	45	4.5	79	22	6.9	3.1	4.0	3	3	3	3	96	5.7
SLM LT SP 42	42	32	1.03	45	4.8	78	22	6.5	2.0	3.5	4	4	4	4	90	6.7
SLM LT SP 42	42	32	1.04	44	4.9	78	21	6.6	1.7	3.2	3	3	3	3	91	6.2
SEMINOLE																
STRIPPER 31																
SLM LT SP 42	42	32	0.97	47	4.2	80	22	6.6	2.0	3.2	3	3	4	3	94	5.8
SLM LT SP 42	42	32	0.97	47	4.3	78	20	6.9	2.4	3.8	3	3	3	3	96	7.3
SLM LT SP 42	42	31	0.94	46	4.5	74	20	6.6	2.2	3.8	3	3	3	3	94	6.9
WINTERS																
LANKART 57																
SLM LT SP 42	42	30	1.00	47	4.4	76	21	7.2	2.5	3.6	3	3	3	3	94	6.4
1/LM LT SP 52	52	31	0.98	44	4.2	78	20	7.1	3.3	5.1	5	5	4	4	82	7.9
LM LT SP 52	52	30	0.99	42	3.1	76	21	6.9	2.2	4.0	4	4	4	4	86	7.1
OKLAHOMA																
ALTUS																
LANKART 57																
M LT SP 32	32	32	0.92	46	4.7	83	21	7.3	1.2	2.6	2	2	4	4	58	5.8
SLM	41	32	0.97	43	4.6	81	20	6.6	1.4	2.6	3	3	3	3	93	5.4
SLM LT SP 42	42	32	1.01	45	4.2	75	20	7.0	1.8	3.4	3	3	3	3	92	6.6
WEST																
NEW MEXICO																
CAUSEY																
GREGG 35																
SLM TG	44	31	0.95	48	3.1	81	22	7.6	6.1	7.7	7	7	8	8	75	10.2
SLM TG	44	30	0.92	47	2.7	79	21	7.1	5.1	6.6	6	6	8	8	76	10.1
SLM TG	44	30	0.90	45	2.7	79	22	7.2	5.0	6.6	7	7	8	8	74	9.8

1/ reduced from 42 because of bark

Table 51.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1972 --Continued

State, Production Area Chronological sampling and Classification	Grade	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s blechd.yarn		Color - 22s dyed yarn	
		8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	Index	8s or 74 tex	22s or 27 tex		Reflect- ance	Yellow- ness	Reflect- ance	Yellow- ness	Reflect- ance	Blue- ness
Name	Code	32d in.	Lbs.	Pct.	Pct.	Lbs.	Index	Index	No.	No.	Rd	+b	Rd	+b	Rd	-b
SOUTH WEST NORTHWEST TEXAS																
RULE																
100 PERCENT																
SLM	41 33	328	100	7.3	6.1		120	120	34	23	55	68.7	11.5	95	84.0	3.6
SLM LT SP 42	32	304	95	7.2	6.3		120	120	43	27	46	65.8	11.5	89	82.6	4.8
SLM LT SP 42	32	305	95	7.2	6.1		120	120	30	19	48	64.9	11.1	86	81.8	4.3
SEMINOLE																
STRIPPER 31																
SLM LT SP 42	32	307	94	7.5	6.2		130	120	35	22	43	68.2	12.4	97	84.0	3.6
SLM LT SP 42	32	307	91	7.9	6.4		120	120	43	28	43	68.1	11.9	95	83.9	3.6
SLM LT SP 42	31	299	91	7.7	6.5		120	120	39	27	43	68.2	11.2	93	82.9	3.6
WINTERS																
LANKART 57																
SLM LT SP 42	30	315	96	7.4	6.4		120	120	41	24	47	67.1	12.2	94	84.4	3.5
LM LT SP 52	31	291	87	7.4	6.0		120	120	55	32	43	63.4	11.9	85	82.5	4.8
LM LT SP 52	30	284	87	7.3	5.9		120	120	46	28	42	63.3	11.9	85	82.0	5.4
OKLAHOMA																
ALTUS																
LANKART 57																
M LT SP 32	32	310	95	7.1	6.0		130	120	25	17	46	68.5	11.9	96	83.3	3.6
SLM	41 32	311	94	7.2	6.0		130	130	29	14	45	67.1	10.9	89	82.4	3.8
SLM LT SP 42	32	310	94	7.8	6.7		130	120	29	16	48	67.2	11.2	91	83.6	3.5
WEST																
NEW MEXICO																
CAUSEY																
GREGG 35																
SLM TG	44 31	353	105	8.1	6.8		110	90	118	68	49	51.7	14.2	72	85.7	5.2
SLM TG	44 30	335	103	7.9	6.7		120	120	95	51	44	51.6	14.3	72	85.4	5.1
SLM TG	44 30	315	97	8.0	7.0		110	90	74	47	40	52.8	14.1	73	85.4	4.4
24																

1/ reduced from 42 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972 -Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name		32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST													
ALABAMA													
CHEROKEE													
DELTAPINE 16													
85 PERCENT													
SLM	41	34	1.08	43	4.1	74	22	8.5	1.7	2	3	100	5.3
LM	51	34	1.10	44	4.3	79	22	8.6	1.7	2	3	96	5.8
LM	51	34	1.13	43	4.1	79	22	7.3	3.2	3	3	92	5.9
DEATSVILLE													
COKER 417													
100 PERCENT													
SLM	41	35	1.16	45	4.4	88	26	6.3	2.2	2	3	96	5.1
LM	51	35	1.14	46	4.1	88	25	6.6	3.3	3	3	91	5.9
LM	51	35	1.14	43	3.8	89	24	6.7	2.5	3	2	95	6.4
LM	51	35	1.12	44	3.8	85	24	6.0	2.9	3	2	93	5.8
GERALDINE													
COKER 201													
100 PERCENT													
SLM	41	33	1.02	47	4.9	87	22	7.0	1.7	2	3	97	5.1
SLM	41	33	1.03	44	4.4	85	21	5.7	1.7	3	3	96	5.8
SLM LT SP 42		33	1.03	46	4.9	81	22	5.8	2.0	3	3	95	5.6
JEFF													
STONEVILLE 213													
93 PERCENT													
SLM LT SP 42		34	1.08	45	4.5	77	21	8.3	3.3	4	4	87	6.4
SLM LT SP 42		34	1.08	43	4.2	80	21	7.6	3.4	4	4	87	6.0
LM	51	33	1.05	44	4.1	80	20	6.7	2.1	3	3	91	6.4
MEREDIANVILLE													
REX SMOOTH LEAF													
75 PERCENT													
SLM LT SP 42		34	1.08	43	4.0	82	21	7.2	2.8	3	4	95	6.0
LM	51	33	1.10	44	4.2	78	20	7.9	2.7	3	3	95	6.1
SLM LT SP 42		34	1.10	43	4.2	77	20	7.7	2.4	4	3	90	6.6
TONEY													
DIXIE KING II													
92 PERCENT													
SLM LT SP 42		33	1.04	42	3.9	84	21	6.4	1.8	3	4	93	5.3
SLM	41	33	1.05	44	4.2	79	21	7.9	3.1	3	3	96	5.0
SLM LT SP 42		33	1.05	43	3.9	83	21	7.6	1.8	3	3	93	5.1
TUSCUMBIA													
STONEVILLE 213													
100 PERCENT													
LM	51	34	1.10	46	4.7	78	22	7.2	2.9	4	4	91	6.4
LM	51	33	1.05	45	4.5	75	21	7.1	4.4	3	3	93	6.6
LM	51	33	1.04	44	4.6	78	21	7.2	2.6	4	3	90	7.0

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blehd. yarn			Color - 22s dyed yarn			
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		No.	No.	Index	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST ALABAMA CHEROKEE																				
DELTAPINE 16																				
85 PERCENT																				
SLM	41 34	99	35	7.2	5.3	100	70	28	15	69	69.2	10.6	93	85.2	3.0	106	27.0	27.2	109	
LM	51 34	101	36	7.2	5.3	100	70	17	16	68	65.9	10.2	85	82.7	3.2	99	26.5	27.2	110	
LM	51 34	98	34	6.6	4.8	90	70	28	28	64	65.4	10.2	85	84.0	3.3	102	27.0	26.2	105	
DEATSVILLE																				
COKER 417																				
100 PERCENT																				
SLM	41 35	118	47	6.0	4.7	100	80	30	14	76	65.6	11.1	87	84.1	3.8	100	27.3	26.2	104	
LM	51 35	116	44	6.6	5.0	100	70	28	14	75	64.6	11.0	85	83.7	3.6	100	28.5	25.9	101	
LM	51 35	119	45	6.3	4.7	100	80	20	13	77	65.5	10.3	85	83.7	3.3	101	29.5	25.1	95	
LM	51 35	111	41	6.2	4.7	90	70	16	12	70	64.6	9.7	82	80.1	3.6	91	30.1	24.3	91	
GERALDINE																				
COKER 201																				
100 PERCENT																				
SLM	41 33	91	27	5.5	3.7	100	80	10	7	58	65.4	10.6	85	83.2	3.2	100	26.7	27.1	109	
SLM	41 33	84	25 1/2	5.2	4.0	100	80	15	14	48	66.1	10.9	87	84.5	3.1	104	27.2	26.9	107	
SLM LT SP	42 33	85	27	5.4	3.9	120	90	9	6	51	67.1	10.4	88	82.8	2.8	101	28.0	25.7	101	
JEFF																				
STONEVILLE 213																				
93 PERCENT																				
SLM LT SP	42 34	102	37	6.8	5.5	110	80	24	23	65	64.5	12.4	89	84.1	4.8	96	27.2	26.4	105	
SLM LT SP	42 34	94	32	6.4	4.5	100	80	17	12	62	63.4	11.6	84	83.5	4.3	96	27.9	26.0	102	
LM	51 33	93	30	6.1	4.3	100	70	8	8	61	65.2	10.5	85	84.0	3.3	102	29.5	25.7	98	
MEREDIANVILLE																				
REX SMOOTH LEAF																				
75 PERCENT																				
SLM LT SP	42 34	101	36	6.4	4.9	100	80	24	27	65	65.0	11.7	87	83.2	5.1	93	26.8	26.0	104	
LM	51 33	96	33	6.8	4.9	110	80	12	9	64	66.7	10.7	88	84.1	4.2	98	27.5	26.4	105	
SLM LT SP	42 34	95	33	6.5	4.7	110	80	6	6	64	64.5	10.9	85	83.0	5.4	91	28.0	26.0	102	
TONEY																				
DIXIE KING II																				
92 PERCENT																				
SLM LT SP	42 33	94	31	6.1	4.3	90	70	11	11	60	63.8	11.7	85	82.8	5.3	91	27.9	25.8	101	
SLM	41 33	96	31	6.2	4.4	110	90	11	8	59	66.4	11.0	88	83.9	4.4	97	27.5	26.2	104	
SLM LT SP	42 33	90	30	6.3	4.4	90	70	18	18	52	64.4	10.7	84	82.1	4.9	91	27.9	25.3	99	
TUSCUMBIA																				
STONEVILLE 213																				
100 PERCENT																				
LM	51 34	96	32	6.7	5.1	100	80	22	15	64	64.9	11.6	87	83.8	4.3	97	27.5	26.2	104	
LM	51 33	90	30	6.3	4.6	100	90	12	10	61	65.9	10.9	87	84.2	3.5	101	26.9	26.9	108	
LM	51 33	87	28	6.2	4.3	90	90	21	19	54	64.9	10.5	84	83.1	3.4	99	28.6	25.7	100	

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification	Grade	Staple		Digital Fibrograph		Micro- naire		Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
		3rd in.	In.	2.5% span length	50/2.5 unif.	Rdg.	Mpsi	Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	3rd in.	In.	Pct.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	No.	Index	Pct.
SOUTH EAST																
ALABAMA																
TUSKEGEE																
99 PERCENT																
SLM	41	34	1.12	43		4.4	80	24	8.1	1.3	1.9		2	4	97	5.3
SLM	41	34	1.09	45		4.3	81	24	8.5	1.5	1.9		2	3	99	4.9
LM	51	34	1.10	44		4.1	80	22	8.5	1.3	2.0		3	2	95	5.5
LM	51	34	1.09	44		4.2	80	22	8.0	1.4	2.5		2	2	95	5.0
85 PERCENT																
COKER 201																
LM	51	35	1.10	48		4.9	88	26	6.0	2.4	3.6		3	3	91	5.6
SLM	41	35	1.11	47		4.6	87	25	5.8	1.8	2.5		3	2	95	5.4
LM	51	35	1.12	46		4.5	88	24	6.4	2.6	3.5		4	2	88	6.6
LM	51	35	1.10	43		4.2	80	22	6.9	1.9	2.7		2	2	98	6.2
GEORGIA																
BOSTWICK																
DIXIE KING II																
100 PERCENT																
SLM LT SP	42	34	1.04	46		4.6	82	22	6.4	2.5	3.1		3	4	95	6.1
LM	51	33	1.02	46		4.8	89	21	6.4	2.6	3.2		3	3	95	6.5
SLM LT SP	42	33	1.00	45		4.7	82	20	5.7	1.5	2.6		4	3	88	6.2
LM	51	33	0.97	44		4.4	85	20	5.6	2.0	2.7		4	2	88	6.1
100 PERCENT																
COKER 201																
SLM	41	34	1.07	47		4.6	84	23	7.0	2.1	2.7		2	3	100	4.8
SLM	41	34	1.09	47		4.4	87	24	6.3	2.0	2.6		3	3	94	6.6
LM	51	33	1.05	47		4.4	88	25	6.5	2.5	3.4		2	2	96	6.1
85 PERCENT																
COKER 201																
SLM	41	34	1.07	43		4.2	87	23	6.5	2.3	3.0		1	3	101	5.8
SLM	41	34	1.05	46		4.9	88	23	6.0	2.0	2.8		1	3	100	5.7
LM	51	34	1.10	44		4.2	84	23	6.6	2.5	3.5		3	3	93	6.7
LM	51	34	1.07	46		4.3	87	23	5.5	2.9	3.7		4	2	86	7.6
75 PERCENT																
COKER 417																
SLM	41	34	1.09	45		4.1	85	25	6.9	1.9	2.5		2	3	100	5.2
LM	51	34	1.10	44		3.8	82	22	6.7	2.7	3.7		3	3	96	6.4
LM	51	34	1.16	43		4.3	79	23	7.4	2.9	3.7		3	2	94	7.0

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index	No.	No.		22s or 27 tex	50s or 12 tex	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance
Grade	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																				
ALABAMA																				
TUSKEGEE																				
99 PERCENT																				
DELTA PINE 16																				
SLM	41	34	110	40	6.7	5.2	110	80	19	11	68	67.9	11.1	92	84.4	3.2	103	26.7	26.8	108
SLM	41	34	107	39	6.7	5.3	110	70	14	9	70	68.5	10.4	91	84.6	3.1	104	27.9	26.8	105
LM	51	34	105	38	6.6	4.9	100	80	10	8	71	64.5	10.1	83	84.0	3.0	103	29.0	26.1	100
LM	51	34	100	32	6.5	4.2	110	80	15	13	64	67.9	9.6	87	82.5	3.1	99	30.4	23.9	89
85 PERCENT																				
TYLER																				
COKER 201																				
LM	51	35	115	43	6.0	5.1	110	80	15	8	73	66.9	10.9	89	83.5	3.0	102	26.9	26.9	108
SLM	41	35	110	40	6.2	4.9	100	90	16	15	64	66.3	10.1	86	84.0	2.7	104	28.4	26.6	104
LM	51	35	113	41	6.2	4.9	100	90	12	10	73	64.1	9.7	81	82.6	3.1	99	27.6	26.9	106
LM	51	35	104	35	6.3	4.8	120	80	15	8	62	68.4	9.9	89	82.7	2.9	100	27.7	26.3	104
100 PERCENT																				
DIXIE KING II																				
SLM LT SP	42	34	99	33	6.3	4.4	120	90	11	9	63	67.5	11.5	93	83.6	4.3	97	26.8	27.0	108
LM	51	33	93	28	5.6	3.7	120	80	12	8	59	68.8	10.7	93	84.0	3.7	100	28.2	26.9	105
SLM LT SP	42	33	89	26	5.4	3.8	120	100	9	8	52	64.7	10.8	85	82.6	4.6	93	29.9	25.1	95
LM	51	33	81	25	5.2	3.9	110	90	9	7	54	65.0	9.8	83	81.0	4.4	90	30.7	24.7	91
85 PERCENT																				
CCLBERT																				
COKER 201																				
SLM	41	34	111	38	6.7	5.0	120	90	12	8	74	70.1	11.0	96	84.4	3.1	103	25.7	28.0	115
SLM	41	34	110	38	6.2	4.6	100	90	18	14	73	65.3	10.7	85	83.5	3.6	99	26.6	26.5	107
LM	51	33	106	33	6.0	4.3	110	90	18	15	59	67.9	10.2	89	82.0	3.6	96	27.0	25.7	103
100 PERCENT																				
COKER 201																				
SLM	41	34	107	37	6.4	4.8	110	90	16	15	65	71.7	11.3	100	85.5	3.0	106	27.6	26.6	105
SLM	41	34	99	33	6.1	4.2	120	90	8	10	63	68.3	11.0	93	83.7	3.0	102	26.9	27.4	110
LM	51	34	114	42	6.6	5.1	100	80	18	16	71	66.0	10.5	86	84.4	3.3	103	27.9	26.6	105
LM	51	34	98	33	5.6	3.9	100	80	13	9	60	63.2	9.8	80	81.0	3.7	93	30.3	24.1	90
75 PERCENT																				
PINEHURST																				
COKER 417																				
SLM	41	34	111	42	6.8	5.2	100	70	19	22	72	70.9	11.4	99	85.9	3.1	107	26.7	26.9	108
LM	51	34	109	41	6.7	5.2	90	70	16	18	69	67.7	10.4	89	85.5	3.1	106	28.6	26.2	102
LM	51	34	107	40	6.5	5.1	90	70	23	18	76	66.9	10.3	87	84.1	3.3	102	28.4	27.0	105

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST													
GEORGIA													
SHELLMAN													
DELTAPINE 16													
SLM	41	34	1.05	45	4.7	86	23	7.2	2.1	2	3	98	5.9
SLM	41	33	1.05	44	4.4	87	24	7.3	2.6	2	3	97	5.6
SLM	41	35	1.06	45	4.5	84	22	7.9	2.5	3	3	95	5.8
NORTH CAROLINA													
LAURINBERG													
MCNAIR 511													
100 PERCENT													
SLM	41	35	1.07	46	4.0	80	24	7.8	3.2	2	2	99	7.4
LM+	50	35	1.10	48	4.3	84	24	7.3	3.5	2	2	96	7.2
LM	51	35	1.12	46	4.1	81	23	7.7	6.2	3	2	90	9.0
LM LT SP 52		35	1.10	46	3.8	78	23	7.6	4.3	4	3	86	7.5
SOUTH CAROLINA													
CALPOUN FALLS													
COKER 201													
100 PERCENT													
LM	51	35	1.11	46	4.2	90	23	7.0	5.5	3	2	93	8.2
LM	51	35	1.09	48	4.2	85	26	6.6	4.4	2	2	96	7.2
LM	51	35	1.12	47	4.1	86	24	6.0	3.1	3	2	91	7.5
ST MATTHEWS													
COKER 201													
100 PERCENT													
SLM	41	35	1.08	46	4.5	84	22	7.7	3.6	2	3	98	6.1
SLM	41	34	1.10	48	4.4	83	22	7.3	3.7	2	3	99	5.8
SLM	41	35	1.07	45	3.8	81	23	7.5	3.7	2	2	97	6.6
SLM	41	35	1.13	45	4.1	80	22	7.0	2.9	2	3	97	6.3
YORK													
COKER 417													
100 PERCENT													
LM	51	35	1.11	45	3.7	93	25	6.6	3.7	3	3	95	6.4
LM	51	35	1.13	46	3.8	86	26	7.3	3.5	3	3	94	6.3
LM LT SP 52		35	1.12	45	3.7	86	25	6.3	3.0	3	3	94	6.7
SOUTH CENTRAL													
ARKANSAS													
ALTHEIMER													
DELTAPINE 16													
100 PERCENT													
SLM	41	36	1.12	47	4.8	84	25	7.8	2.0	2	3	98	5.7
SLM	41	35	1.14	46	4.6	85	25	8.4	2.4	2	2	99	5.2
SLM	41	35	1.14	45	4.4	82	24	7.6	2.7	2	2	97	5.7
LM	51	35	1.11	41	3.3	85	24	7.7	3.4	4	2	86	5.7

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s bleichd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		No.	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance
Grade	Code	32d In.	Lbs.	Pct.	Pct.	Index	Index	Index	Index	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																				
GEORGIA																				
SHELLMAN																				
80 PERCENT																				
DELTAPINE 16																				
SLM	41	34	107	38	6.2	4.8	100	80	20	9	66	70.6	11.5	99	82.7	4.0	96	27.6	26.2	104
SLM	41	33	105	38	6.4	5.1	110	70	10	10	70	67.7	11.0	91	83.7	4.0	98	27.8	26.5	104
SLM	41	35	102	35	6.7	4.7	110	90	8	5	63	66.7	10.8	88	82.3	4.3	94	29.5	24.4	93
NORTH CAROLINA																				
LAURINBERG																				
100 PERCENT																				
MCNAIR 511																				
SLM	41	35	114	41	6.8	5.3	90	70	19	16	71	68.9	10.4	92	85.0	2.9	106	26.5	27.9	113
LM+	50	35	113	42	6.6	5.3	100	80	22	17	74	68.8	10.3	91	84.4	2.8	105	26.5	27.1	109
LM	51	35	111	40	6.7	5.0	100	90	16	12	70	67.2	10.3	88	82.8	3.1	100	27.2	25.9	103
LM LT SP	52	35	109	38	6.5	5.2	110	100	18	12	63	61.0	10.1	77	80.0	3.6	91	28.0	25.2	99
SOUTH CAROLINA																				
CALFOUN FALLS																				
100 PERCENT																				
COKER 201																				
LM	51	35	116	43	6.7	5.2	110	90	16	13	75	68.6	10.6	92	84.1	3.2	102	26.3	27.2	110
LM	51	35	114	41	6.4	4.6	100	90	12	9	73	69.0	10.5	92	83.4	3.4	100	27.3	27.0	107
LM	51	35	113	42	6.6	4.7	100	80	20	17	69	66.6	10.4	87	83.4	3.1	101	27.2	26.6	106
ST MATTHEWS																				
100 PERCENT																				
COKER 201																				
SLM	41	35	109	40	6.9	5.2	110	80	24	22	69	69.0	11.7	97	85.9	3.4	106	26.4	27.6	112
SLM	41	34	105	40	6.6	5.3	100	80	22	15	70	69.1	10.6	93	85.3	3.1	106	27.0	27.1	108
SLM	41	35	105	39	6.8	5.4	110	80	12	13	69	69.1	10.6	93	86.0	2.9	108	26.4	27.3	110
SLM	41	35	108	40	6.8	5.5	100	70	22	17	68	67.0	10.7	89	84.3	3.2	103	26.8	27.0	108
YORK																				
100 PERCENT																				
COKER 417																				
LM	51	35	124	47	6.9	5.3	100	70	18	14	76	67.6	11.1	91	84.1	3.7	100	26.9	26.0	104
LM	51	35	123	48	6.7	5.3	100	80	13	9	76	68.0	10.9	92	84.0	3.6	100	28.1	26.2	103
LM LT SP	52	35	121	45	6.5	5.0	90	80	23	19	79	66.2	11.1	88	83.1	4.3	96	27.4	25.3	100
SOUTH CENTRAL																				
ARKANSAS																				
ALTHEIMER																				
100 PERCENT																				
DELTAPINE 16																				
SLM	41	36	113	42	6.7	5.7	130	100	20	12	77	69.7	10.4	93	85.0	2.9	106	26.4	27.7	112
SLM	41	35	116	44	6.4	5.4	120	100	17	12	72	70.6	9.9	94	84.6	3.0	104	25.8	26.8	110
SLM	41	35	110	42	6.2	4.8	120	90	19	12	69	68.8	10.2	91	84.0	2.9	103	28.1	26.1	102
LM	51	35	111	39	6.4	4.8	120	90	27	21	62	64.3	9.1	80	82.0	3.0	98	29.9	25.3	95

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL ARKANSAS BAY													
STONEVILLE 213													
LM+	50	35	1.10	44	4.0	85	24	7.0	3.4	4.2	3	95	7.0
LM	51	34	1.07	45	4.2	87	22	7.1	2.4	3.9	5	83	6.1
LM	51	34	1.07	44	4.1	84	22	5.8	2.5	3.9	4	85	6.6
SGO	61	34	1.06	42	4.3	83	21	6.1	2.4	4.2	6	77	6.0
DUMAS													
STONEVILLE 213													
SLM	41	35	1.09	45	5.2	84	23	6.5	2.0	2.9	2	97	5.3
SLM	41	35	1.12	46	5.1	83	22	6.6	1.6	2.7	2	96	5.5
LM	51	34	1.08	46	4.9	85	22	5.8	1.9	3.0	4	87	6.1
LM	51	34	1.11	44	4.5	83	21	6.2	2.4	3.4	4	89	5.4
FRENCHMANSBAYOU													
DELTAPINE 16													
100 PERCENT													
M	31	35	1.09	44	4.3	87	25	8.2	1.4	2.4	1	103	4.9
SLM	41	35	1.10	45	4.2	85	23	7.1	1.7	2.8	2	96	6.0
SLM LT SP 42	42	35	1.11	45	4.1	81	23	7.4	2.2	3.3	3	94	5.9
GRADY													
DELTAPINE 16													
90 PERCENT													
SLM	41	35	1.11	44	4.6	90	24	7.2	1.8	2.6	2	97	5.5
SLM	41	34	1.13	45	4.8	88	24	6.9	1.4	2.2	2	97	5.6
LM	51	34	1.09	46	4.5	82	23	7.0	2.2	3.2	4	86	5.2
LM	51	34	1.09	43	3.9	84	23	7.5	1.5	2.6	4	87	6.2
HELENA													
STONEVILLE 213													
100 PERCENT													
LM	51	35	1.10	47	4.6	85	23	7.6	2.7	3.5	4	86	6.2
LM	51	34	1.09	44	4.4	80	23	6.5	3.0	4.3	2	96	7.1
LM	51	34	1.10	47	4.6	85	22	6.1	2.6	4.0	3	90	6.6
LM	51	34	1.11	44	4.4	81	21	7.2	3.3	4.8	4	87	6.6
HUGHES													
STONEVILLE 213													
100 PERCENT													
SLM	41	34	1.06	46	4.9	88	23	6.5	1.8	2.7	2	96	5.3
LM	51	34	1.07	47	4.3	90	23	7.0	1.2	2.2	4	84	6.3
SLM	41	34	1.06	45	4.7	84	22	5.7	1.6	2.5	3	93	5.8
LM	51	34	1.06	43	4.4	80	20	6.3	1.9	3.4	4	86	6.8

Table 6A.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s bichd. yarn		Color - 22s dyed yarn					
			22s or 27 tex	Lbs.	22s or 27 tex	Pct.	22s or 27 tex	Index	50s or 12 tex	50s or 12 tex		22s or 27 tex	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness
Grade	Code	32d In.																			
SOUTH CENTRAL																					
ARKANSAS																					
BAY																					
STONEVILLE 213																					
LM+	50	35	112	42	6.8	5.8	120	100	21	15	67	70.9	11.7	100	84.7	3.1	104	26.6	27.5	111	
	51	34	99	34	5.6	4.3	130	100	15	12	63	61.7	9.9	78	83.2	3.7	98	26.8	24.5	98	
	51	34	97	32	5.4	3.7	110	90	22	17	55	61.0	9.4	76	81.5	3.7	94	28.8	25.0	96	
	61	34	91	27	5.2	3.4	120	90	18	15	51	57.7	8.6	73	81.1	3.7	93	30.9	24.0	88	
DUMAS																					
STONEVILLE 213																					
SLM	41	35	103	36	5.9	4.7	120	100	15	10	64	68.6	10.7	92	84.8	3.1	104	25.9	27.8	113	
	41	35	102	36	5.6	4.4	130	100	11	6	62	70.7	10.5	96	83.8	2.9	103	26.3	26.9	109	
	51	34	94	32	5.5	3.7	120	100	15	11	60	64.8	10.0	83	83.0	3.1	100	27.5	26.6	105	
	51	34	101	35	6.0	4.4	120	100	18	13	59	66.0	9.7	84	83.8	2.9	103	28.7	25.9	100	
FRENCHMANSBAYOU																					
DELTAPINE 16																					
M	31	35	113	43	6.4	5.5	120	90	15	11	61	71.4	10.5	97	86.5	2.8	110	26.4	27.8	112	
	41	35	106	39	5.9	5.0	120	100	13	10	63	66.8	9.9	86	83.3	3.3	100	28.4	26.0	101	
	41	35	107	40	6.2	5.0	120	90	20	16	67	65.8	10.4	86	83.3	3.3	100	27.7	25.8	102	
	51	34	109	38	6.1	4.8	120	90	17	14	65	66.0	9.3	84	82.0	3.2	97	29.6	25.3	96	
GRADY																					
DELTAPINE 16																					
SLM	41	35	108	41	6.2	5.0	120	90	21	16	63	69.2	10.3	92	85.4	2.8	107	26.3	26.4	107	
	41	34	109	41	6.0	4.4	120	100	17	12	61	70.0	10.1	93	84.3	2.9	104	27.1	27.5	110	
	51	34	105	40	6.1	4.7	120	90	21	13	69	65.7	10.0	85	83.1	3.0	101	27.2	26.6	106	
	51	34	109	38	6.1	4.8	120	90	17	14	65	66.0	9.3	84	82.0	3.2	97	29.6	25.3	96	
HELENA																					
STONEVILLE 213																					
LM	51	35	103	37	5.9	4.4	120	100	16	12	67	66.0	10.3	86	83.6	3.3	101	26.9	27.0	108	
	51	34	100	37	5.9	4.4	120	90	18	14	63	68.8	9.9	90	83.6	2.6	104	26.4	26.5	107	
	51	34	100	38	6.2	4.7	130	100	16	10	60	67.7	9.8	88	84.4	3.0	104	27.2	26.8	107	
	51	34	102	35	5.6	4.2	120	90	18	11	59	64.4	9.2	81	82.5	3.2	99	30.1	24.8	93	
HUGHES																					
STONEVILLE 213																					
SLM	41	34	103	34	5.9	4.3	120	100	15	12	61	70.0	11.5	98	84.3	3.0	104	25.9	27.9	114	
	51	34	102	33	5.6	4.0	120	90	21	14	61	64.7	10.3	84	83.3	3.7	98	28.7	25.9	100	
	41	34	93	30	5.5	3.5	120	100	15	12	55	66.3	10.4	86	83.4	3.1	101	29.5	25.0	95	
	51	34	90	29	5.2	4.1	120	80	24	17	50	65.0	9.4	82	82.1	3.2	98	30.8	23.8	88	

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification				Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	32d in.	Staple	2.5% span length	50/2.5 unif.		Rdg.	Mpsi		G/tex	Pct.	Visible waste	Total waste	Gray- ness	
Name											Pct.		No.	No.	Pct.
SOUTH CENTRAL															
ARKANSAS															
LEACHVILLE															
STONEVILLE 213															
SLM	41		34	1.07	46	4.5	83	23	7.1	1.8	2.6	2	3	96	5.6
LM	51		34	1.07	47	4.0	85	23	7.3	2.1	3.2	4	3	88	6.2
LM	51		34	1.07	44	4.0	84	23	6.3	2.6	3.8	4	2	89	6.6
LEACHVILLE															
BRYCOT #4															
SLM	41		35	1.11	47	4.5	89	22	6.1	1.6	2.4	2	3	97	5.9
SLM	41		34	1.09	44	4.2	88	21	6.2	2.2	3.0	2	3	97	5.9
LM	51		34	1.10	46	4.3	86	21	5.4	1.8	3.0	3	2	92	7.0
OSCEOLA															
STONEVILLE 7A															
LM	51		35	1.08	44	4.1	86	22	6.4	4.5	5.4	3	3	92	8.2
LM	51		35	1.12	45	4.0	84	21	5.8	2.4	3.8	2	2	95	6.2
LM	51		34	1.07	44	4.4	83	21	5.7	2.1	3.2	4	3	84	6.6
PARKIN															
REX SL-66															
LM	51		34	1.07	46	4.4	88	21	6.8	1.8	2.7	5	3	83	5.4
LM	51		34	1.06	43	4.4	82	22	6.2	2.4	3.7	5	3	84	7.9
LM	51		34	1.07	45	4.1	84	20	5.6	3.0	4.5	5	2	83	7.0
WILSON															
DELTAPINE 16															
SLM	41		34	1.08	47	4.6	85	24	8.2	2.6	3.6	2	3	97	6.2
LM	51		34	1.09	45	4.1	88	24	8.4	1.8	3.3	4	2	87	5.9
LM	51		34	1.10	44	3.8	85	23	7.0	2.0	3.3	4	2	89	6.4
WILSON															
QUAPAW															
LM	51		32	0.97	47	4.7	98	22	4.5	1.9	3.8	4	3	85	7.2
LM	71		31	0.97	45	4.7	90	21	4.1	2.6	4.2	7	3	75	8.1
WYNNE															
DELTAPINE 16															
SLM	41		34	1.07	45	4.5	86	24	7.6	1.6	2.8	3	3	95	5.5
LM	51		34	1.07	44	4.4	83	23	7.8	2.4	3.7	4	2	90	6.5
LM	51		34	1.07	44	4.5	83	22	8.1	2.6	4.1	4	2	85	6.6

1/ Reduced from 61 because of bark

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprftns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blehd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		Index	Index	Reflect- ance	Yellow- ness	Index	Reflect- ance	Yellow- ness	Index	Reflect- ance
Grade	Code	Staple	Lbs.	Lbs.	Pct.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
ARKANSAS																				
LEACHVILLE																				
STONEVILLE 213																				
100 PERCENT																				
SLM	41 34		109	39	6.2	5.0	120	100	22	13	65	71.5	11.7	101	84.9	3.0	105	24.9	27.7	115
LM	51 34		103	37	6.0	4.7	120	100	19	11	63	65.0	10.5	85	84.6	3.0	104	26.6	26.0	105
LM	51 34		97	35	6.1	4.4	120	90	27	18	56	65.8	10.0	85	84.4	3.2	103	29.2	25.7	98
LEACHVILLE																				
BRYCOT #4																				
100 PERCENT																				
SLM	41 35		105	37	5.8	4.2	120	100	21	14	64	71.0	10.9	98	84.8	3.0	105	25.9	27.8	113
SLM	41 34		97	34	5.3	3.9	120	90	18	16	61	68.6	10.2	90	83.8	2.8	103	26.3	26.4	107
LM	51 34		89	31	5.0	3.6	120	80	22	16	55	66.2	9.9	85	83.3	2.9	102	28.0	26.1	102
OSCEOLA																				
STONEVILLE 7A																				
100 PERCENT																				
LM	51 35		100	34	5.8	4.3	110	90	20	15	62	70.7	11.2	98	84.8	3.0	105	26.5	27.5	111
LM	51 35		104	38	5.5	4.4	120	90	19	14	61	68.9	9.8	90	84.5	3.1	104	27.6	26.7	106
LM	51 34		93	32	5.8	3.7	120	90	18	14	54	64.1	9.7	81	83.8	3.2	102	26.9	26.7	107
PARKIN																				
REX SL-66																				
80 PERCENT																				
LM	51 34		99	34	5.1	3.9	120	100	12	9	63	63.0	10.0	80	82.1	3.9	95	28.4	26.3	102
LM	51 34		94	33	5.1	3.6	120	90	18	13	60	64.2	10.3	83	82.3	3.5	97	27.6	26.0	103
LM	51 34		92	31	5.1	3.6	120	100	19	14	58	62.7	9.5	79	82.3	3.7	96	28.9	25.1	97
WILSON																				
DELTAPINE 16																				
100 PERCENT																				
SLM	41 34		112	41	6.4	5.4	130	100	13	10	72	71.0	11.4	99	85.4	2.9	107	25.1	27.9	115
LM	51 34		112	41	6.0	4.8	120	90	15	8	65	66.7	9.6	85	83.2	3.5	99	26.6	26.0	105
LM	51 34		106	39	6.3	4.7	120	100	14	10	63	65.8	9.6	84	82.9	3.1	100	28.6	25.8	100
WILSON																				
QUAPAW																				
100 PERCENT																				
LM	51 32		93	31 1/2	4.5	3.5	120	110	11	11	46	65.2	10.3	84	81.2	4.1	92	29.2	24.9	95
260	71 31		93	27	4.7	2.8	120	90	20	14	41	56.0	9.2	72	76.6	5.0	77	29.8	23.1	87
WYNNE																				
DELTAPINE 16																				
100 PERCENT																				
SLM	41 34		106	37	6.4	4.8	120	100	26	17	62	69.5	11.3	96	85.1	2.9	106	26.3	27.1	110
LM	51 34		100	34	5.9	4.3	120	100	15	10	57	65.9	9.5	84	82.4	3.6	97	28.5	25.2	98
LM	51 34		104	36	5.9	4.7	130	100	16	12	61	64.4	9.0	80	81.1	3.7	93	29.0	25.0	96

1/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.  
 2/ Reduced from 61 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972.--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	Staple 32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name			In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
LOUISIANA														
LAFAYETTE														
STONEVILLE 213														
SLM	41	35	1.07	46	4.7	84	21	6.6	1.2	2.0	3	3	95	5.6
SLM	41	35	1.10	44	4.9	87	23	5.4	0.9	2.0	2	2	97	5.8
SLM LT SP	42	34	1.07	46	4.7	80	21	6.4	2.0	3.4	4	4	89	6.4
LAKE PROVIDENCE														
STONEVILLE 213														
100 PERCENT														
SLM	41	35	1.06	47	4.7	82	23	6.8	2.0	2.6	2	3	97	5.4
SLM	41	34	1.10	47	4.4	85	24	6.7	3.1	3.8	2	2	97	6.4
LM	51	34	1.06	44	4.3	83	22	6.2	2.5	3.6	4	2	89	6.1
MONROE														
DELTAPINE 16														
100 PERCENT														
SLM LT SP	42	35	1.06	45	4.5	88	23	7.9	1.2	2.3	3	3	94	5.0
SLM	41	35	1.10	45	4.6	84	23	6.4	1.2	2.4	2	3	96	5.7
LM	51	34	1.10	45	3.9	86	24	6.7	1.9	3.5	4	2	88	6.9
NEWELLTON														
STONEVILLE 213														
75 PERCENT														
SLM	41	35	1.12	46	4.3	82	24	7.1	2.0	2.6	2	3	97	5.1
LM	51	35	1.06	45	4.6	87	22	6.0	1.8	2.6	2	3	96	6.1
LM	51	34	1.08	46	4.4	83	22	6.4	1.4	2.3	4	2	87	5.2
OPELOUSAS														
DELTAPINE 45A														
95 PERCENT														
SLM	41	34	1.09	44	4.5	82	21	7.0	1.2	2.0	3	3	92	5.6
SLM	41	34	1.07	45	4.2	83	22	6.9	1.7	2.8	3	3	94	6.1
SLM LT SP	42	33	1.00	44	4.2	79	20	6.4	1.4	2.6	4	4	87	5.9
SHREVEPORT														
DELTAPINE 16														
100 PERCENT														
SLM	41	35	1.12	43	4.3	84	23	8.1	1.1	2.0	2	3	98	5.0
SLM	41	34	1.09	44	4.0	86	22	7.0	1.1	2.0	2	2	98	5.0
SLM	41	34	1.12	43	4.1	79	23	7.4	1.0	2.3	2	2	96	5.6
SLM	41	34	1.10	43	3.8	81	23	7.7	1.4	2.6	2	2	96	6.0
WATERPROOF														
DELTAPINE 16														
100 PERCENT														
SLM	41	35	1.11	46	4.2	84	25	8.6	1.7	2.5	2	2	98	5.1
SLM	41	35	1.11	46	4.4	85	23	7.0	1.8	3.1	2	2	96	5.5
LM	51	35	1.13	46	3.9	80	23	7.5	2.3	3.4	3	2	92	5.7



Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972 --Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
			2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Grade	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	
SOUTH CENTRAL														
MISSISSIPPI														
BELZONI														
DELTAPINE 16														
SLM	41	35	1.09	46	4.5	88	26	7.9	2.5	3.4	2	3	97	6.0
SLM	41	35	1.12	45	4.5	88	25	7.7	1.8	2.7	2	2	100	6.3
LM	51	35	1.08	46	4.8	84	24	8.3	2.8	4.6	2	2	97	7.2
SGO	61	34	1.10	41	3.3	84	23	7.5	3.4	3.6	5	2	83	8.2
BRUCE														
STONEVILLE 213														
SLM	41	34	1.08	45	4.1	85	22	7.3	1.5	2.4	2	4	98	5.9
SLM	41	35	1.09	45	4.2	83	22	7.4	1.8	2.3	1	3	100	5.7
LM	51	35	1.12	46	4.7	80	22	7.5	2.3	3.2	3	2	95	7.2
LM	51	34	1.07	45	3.9	78	21	7.0	2.3	3.5	2	2	97	6.4
CLARKSDALE														
STONEVILLE 213														
SLM	41	35	1.07	44	4.7	86	23	6.5	1.6	2.1	2	3	98	5.9
LM	51	35	1.10	46	5.0	83	23	6.6	2.7	3.5	2	3	96	7.2
LM	51	34	1.08	44	4.5	83	23	6.8	2.6	3.0	4	2	86	7.9
EDWARDS														
STONEVILLE 213														
SLM	41	35	1.08	45	4.6	85	23	7.5	1.8	2.4	1	3	101	5.9
SLM	41	35	1.10	47	4.7	82	23	7.5	1.1	2.1	2	3	96	4.7
SLM	41	35	1.10	45	4.3	83	23	7.3	1.1	1.6	2	2	99	5.5
GREENWOOD														
STONEVILLE 213														
SLM	41	34	1.08	46	4.8	89	24	6.8	2.6	3.2	2	4	99	6.2
SLM	41	34	1.06	45	4.7	86	24	7.0	2.2	2.8	2	3	97	6.1
SLM	41	34	1.04	45	4.6	86	22	6.9	1.6	2.5	2	2	98	7.3
LM	51	34	1.08	42	3.2	81	23	6.6	2.4	3.7	3	2	92	7.1
GUNNISON														
DELTAPINE 16														
SLM	41	35	1.10	47	4.8	82	25	7.8	1.2	2.1	2	3	99	5.3
SLM	41	35	1.10	43	4.5	81	22	7.7	1.2	2.0	1	3	100	5.8
HERNANDO														
DELTAPINE 16														
SLM	41	34	1.09	43	4.1	85	24	7.4	2.4	3.4	2	3	100	6.9
SLM	41	35	1.06	45	3.9	83	23	7.3	2.1	3.0	1	3	101	6.1
SLM LT SP	42	34	1.06	42	4.0	82	22	6.1	1.4	2.0	2	3	97	5.7

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Spin- ning Poten- tial	Color - 22s gray yarn			Color - 22s bichd. yarn		
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite
Name	Code	32d In.	Lbs.	Pct.	Pct.	Index	No.	No.	Rd	+b	Index	Rd	+b	Index
SOUTH CENTRAL														
MISSISSIPPI														
BELZONI														
DELTAPINE 16														
100 PERCENT														
SLM	41 35	116	41	7.0	5.4	120	90	21	11	70	69.7	11.3	97	86.2
SLM	41 35	114	41	6.8	5.2	110	80	12	9	73	70.7	9.8	93	84.6
LM	51 35	111	39	6.9	5.2	110	90	9	7	72	68.9	9.7	89	83.9
SGO	61 34	103	36	6.6	4.9	70	60	49	39	70	63.2	9.5	79	82.7
BRUCE														
STONEVILLE 213														
90 PERCENT														
SLM	41 34	113	40	6.8	5.4	100	90	19	17	68	68.9	11.7	96	85.3
SLM	41 35	105	37	6.6	4.7	100	70	19	14	65	69.9	10.5	94	85.4
LM	51 35	104	37	6.4	4.8	110	90	7	7	68	69.5	10.5	93	85.4
LM	51 34	95	32	6.1	4.2	90	70	32	25	63	68.7	9.8	89	82.6
CLARKSDALE														
STONEVILLE 213														
100 PERCENT														
SLM	41 35	105	37	6.3	5.0	110	70	27	10	65	70.0	10.8	96	85.2
LM	51 35	99	33	6.3	4.6	100	90	14	9	62	68.7	10.8	93	84.2
LM	51 34	94	32	6.1	4.4	90	70	27	21	64	65.2	10.4	85	83.4
EDWARDS														
STONEVILLE 213														
85 PERCENT														
SLM	41 35	110	39	6.6	5.1	120	80	12	10	66	71.1	11.9	101	85.3
SLM	41 35	106	37	6.4	4.8	120	90	11	7	69	67.4	10.6	89	84.3
SLM	41 35	107	38	6.5	4.9	110	90	9	7	71	69.7	10.2	93	84.7
GREENWOOD														
STONEVILLE 213														
100 PERCENT														
SLM	41 34	106	35	6.4	4.8	90	70	31	27	62	70.7	11.8	100	83.7
SLM	41 34	105	36	6.2	4.7	100	80	19	13	66	69.7	10.2	93	84.8
SLM	41 34	100	32	6.0	4.1	106	80	14	12	60	70.3	10.3	94	84.0
LM	51 34	94	30	5.7	4.2	70	60	59	41	55	65.1	9.4	82	83.4
GUNNISON														
DELTAPINE 16														
100 PERCENT														
SLM	41 35	108	40	6.4	4.7	100	70	28	16	63	68.0	10.9	92	84.9
SLM	41 35	100	35	6.5	4.9	90	70	23	25	63	70.5	10.1	94	85.2
HERNANDO														
DELTAPINE 16														
100 PERCENT														
SLM	41 34	110	39	7.0	5.0	100	70	16	15	72	70.0	10.6	95	85.8
SLM	41 35	110	38	6.9	5.1	100	70	15	12	62	70.2	10.5	95	85.2
SLM LT SP	42 34	98	33	6.3	4.5	90	70	14	12	59	68.7	10.4	91	84.5

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification				Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	32d in.	In.	Pct.		Rdg.	Mpsi		G/tex	Pct.	Pct.	Gray-ness	Yellow-ness	
Name	Code												No.	Index	Pct.
SOUTH CENTRAL															
MISSISSIPPI															
INDIANOLA															
DELTAPINE 16															
SLM	41	35		1.09	45	4.0	92	26	7.8	2.0	3.1	1	3	101	6.7
SLM	41	34		1.09	46	4.7	84	25	8.1	2.5	3.2	2	2	100	5.7
SLM	41	34		1.12	44	4.6	83	25	7.6	1.8	2.4	1	2	100	7.0
DIXIE KING III															
100 PERCENT															
LM	51	35		1.04	46	4.4	95	25	5.9	3.0	3.6	3	3	95	7.7
LM	51	35		1.06	46	4.5	92	25	5.3	3.3	4.1	3	3	93	6.0
LM	51	34		1.06	45	4.3	96	24	6.1	2.4	3.4	3	2	92	8.1
STONEVILLE 213															
100 PERCENT															
LM	51	35		1.11	47	5.0	89	24	6.4	3.1	3.9	3	3	94	6.8
LM	51	35		1.07	45	4.3	89	23	6.9	2.6	3.7	2	3	97	7.2
SLM	41	34		1.09	44	4.8	85	24	6.4	2.0	2.8	2	3	100	6.7
LYON															
STONEVILLE 213															
100 PERCENT															
SLM	41	35		1.10	46	5.2	88	24	6.5	1.7	2.5	2	3	99	5.6
LM	51	34		1.09	45	4.9	82	22	7.0	2.4	3.2	2	3	98	7.4
LM	51	34		1.09	44	3.9	83	23	6.6	2.0	3.3	4	2	88	6.8
LM	51	34		1.07	41	3.3	84	23	7.2	3.0	4.4	3	2	93	6.9
MORTON															
DELTAPINE 16															
98 PERCENT															
SLM	41	35		1.10	46	4.5	87	23	7.7	1.6	2.2	2	3	100	6.1
SLM	41	34		1.10	44	4.5	84	22	8.7	1.5	2.5	2	3	99	5.6
SLM LT SP 42	42	34		1.09	45	4.1	83	22	7.6	1.5	2.3	3	3	96	5.7
PANTHER BURN															
DELTAPINE 16															
100 PERCENT															
SLM	41	35		1.10	47	4.9	86	25	8.0	1.7	2.5	1	3	101	5.8
SLM	41	35		1.12	44	4.1	87	23	8.0	1.5	2.2	1	2	101	5.9
SLM	41	35		1.13	44	4.0	86	23	7.7	1.1	2.1	1	2	101	5.3
LM	51	35		1.13	43	4.0	81	23	7.4	1.8	3.3	2	1	96	7.1
SARDIS															
STONEVILLE 213															
95 PERCENT															
SLM	41	35		1.11	46	4.8	84	23	7.1	1.8	2.7	2	3	98	6.0
LM	51	34		1.09	44	4.2	81	23	7.0	2.6	3.7	2	3	96	7.3
LM	51	34		1.10	44	4.2	82	22	6.6	2.5	3.7	3	2	92	6.7



Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972 --Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL													
MISSISSIPPI													
SCOTT													
DELTAPINE 16													
SLM	41	36	1.14	44	4.1	87	25	8.3	1.8	2.6	2	100	5.9
SLM	41	35	1.13	44	4.3	82	24	8.0	1.7	2.6	1	102	6.4
LM	51	35	1.10	42	4.0	80	23	8.1	1.4	2.6	3	92	6.4
LM	51	35	1.12	42	4.0	77	23	8.2	2.5	3.6	2	95	7.4
DELTAPINE 16													
100 PERCENT													
SLM	41	35	1.12	47	4.7	86	26	8.0	1.7	2.4	1	103	4.9
SLM	41	35	1.12	45	4.8	86	24	7.9	0.9	1.7	1	100	5.0
SLM	41	35	1.09	41	3.2	87	25	7.6	1.0	2.1	1	101	6.2
STONEVILLE 7A													
100 PERCENT													
SLM	41	35	1.09	45	5.1	96	23	5.0	2.8	3.6	1	102	6.8
SLM	41	34	1.09	43	4.0	87	23	6.6	1.5	2.5	2	99	6.2
LM	51	34	1.07	42	4.1	97	21	5.7	2.7	3.9	3	95	7.5
STONEVILLE 213													
100 PERCENT													
SLM	41	35	1.09	45	4.8	82	22	7.5	1.5	2.6	2	98	6.1
LM	51	35	1.09	43	4.6	83	23	6.7	2.3	3.3	3	96	5.8
SLM	41	35	1.10	44	4.4	85	23	7.6	1.5	2.5	2	100	6.1
LM	51	35	1.07	42	4.2	81	22	6.2	1.7	3.2	3	92	6.0
DELTAPINE 16													
95 PERCENT													
SLM	41	35	1.10	45	4.3	84	23	8.3	1.8	2.4	2	99	5.7
SLM	41	35	1.10	44	4.0	82	24	8.5	1.5	2.8	1	101	5.4
SLM	41	35	1.10	42	4.0	76	22	8.5	1.3	2.5	1	102	5.3
LM	51	34	1.10	43	3.8	76	21	7.8	2.0	3.0	3	95	6.1
STONEVILLE 213													
100 PERCENT													
SLM	41	34	1.05	45	4.1	74	20	8.0	1.5	2.3	3	95	6.0
LM	51	34	1.08	44	4.0	76	21	6.6	1.8	2.7	4	89	6.6
LM	51	33	1.03	43	3.9	76	20	6.7	1.5	2.7	4	88	5.9
LM	51	33	1.05	42	3.7	76	19	6.6	1.8	3.0	4	87	6.5
MISSOURI													
BELL CITY													

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Grade	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s blchd. yarn		Color - 22s dyed yarn	
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Reflect- ance	Yellow- ness	Reflect- ance	Blue- ness
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index
SOUTH CENTRAL																	
MISSISSIPPI																	
SCOTT																	
DELTAPINE 16																	
SLM	41	36	114	41	6.8	5.7	100	70	25	11	75	70.2	10.5	95	85.0	2.9	106
SLM	41	35	111	40	6.9	5.5	100	80	13	12	74	71.2	9.7	94	85.3	2.7	107
LM	51	35	104	36	6.6	5.0	90	70	28	25	69	66.6	9.8	86	84.4	2.4	106
LM	51	35	105	37	6.5	4.9	90	70	32	26	64	69.1	8.7	87	83.0	2.9	101
TRALAKE																	
DELTAPINE 16																	
SLM	41	35	118	43	7.0	5.4	130	100	11	9	71	71.1	11.1	98	85.1	3.0	105
SLM	41	35	108	39	6.4	5.0	120	90	8	6	67	68.8	9.9	90	84.5	2.7	105
SLM	41	35	114	41	7.0	5.4	90	70	25	22	67	69.7	10.1	92	84.3	2.7	105
TRIBETT																	
STONEVILLE 7A																	
SLM	41	35	104	33	5.5	4.1	110	90	18	18	62	71.9	11.7	102	84.3	2.9	104
SLM	41	34	102	35	6.2	4.5	100	70	12	14	65	68.6	10.4	91	85.4	3.1	106
LM	51	34	96	30	5.6	3.8	90	70	13	13	61	67.2	10.2	88	83.3	3.1	101
TUNICA																	
STONEVILLE 213																	
SLM	41	35	102	36	6.7	5.0	100	80	25	18	65	69.7	11.5	97	85.3	3.1	106
LM	51	35	95	31	5.8	4.5	100	70	14	12	62	68.9	10.8	93	84.4	2.9	104
SLM	41	35	101	36	6.3	4.6	100	70	13	10	67	68.8	10.1	90	83.4	3.0	101
LM	51	35	88	28	5.5	4.0	90	70	25	21	57	66.0	10.0	85	83.7	2.9	103
WATER VALLEY																	
DELTAPINE 16																	
SLM	41	35	111	41	7.3	5.8	100	90	20	9	71	70.0	10.5	94	84.9	2.7	106
SLM	41	35	104	37	7.4	5.8	100	70	19	20	69	71.7	10.1	96	86.1	2.5	110
SLM	41	35	106	37	7.2	5.4	110	80	11	9	69	71.5	10.1	96	84.8	2.7	106
LM	51	34	96	32	6.4	4.7	90	60	38	31	63	69.3	9.9	91	82.9	3.5	98
MISSISSIPPI																	
BELL CITY																	
STONEVILLE 213																	
SLM	41	34	94	33	6.6	4.8	90	70	14	13	61	65.9	10.7	87	84.5	3.4	102
LM	51	34	92	31	6.3	4.6	70	60	39	34	60	62.6	10.2	80	84.0	3.0	103
LM	51	33	89	29	6.1	4.3	100	60	22	27	59	64.7	9.7	82	82.2	3.4	97
LM	51	33	89	28	6.3	4.5	100	80	22	15	49	62.9	9.1	78	80.3	3.1	94

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification				Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste		
Grade		32d in.	In.	Pct.	Rdg.		Mpsi	G/tex		Pct.	Pct.	Visible waste	Total waste	Gray- ness		Yellow- ness	Composite color
SOUTH CENTRAL																	
MISSOURI																	
SENATH																	
AUBURN M																	
100 PERCENT																	
SLM	41	34	1.09	45	4.0	80	22	7.7	1.8	2.4	2	4	100	6.1			
SLM	41	34	1.04	44	4.0	80	22	7.5	1.7	2.5	3	3	94	6.4			
LM	51	34	1.06	43	3.6	81	22	6.8	1.3	2.5	3	3	95	6.1			
LM	51	33	1.03	44	4.0	79	21	6.5	2.0	3.0	4	2	87	6.4			
75 PERCENT																	
DELTAPINE 16																	
M	31	34	1.08	45	4.0	85	24	8.2	0.9	1.5	1	3	102	4.9			
SLM	41	34	1.09	42	4.1	82	22	8.3	1.1	1.1	2	3	97	4.6			
SLM	41	34	1.08	44	4.1	82	22	8.7	1.8	1.8	2	3	100	5.6			
LM	51	33	1.06	42	3.8	78	21	7.8	1.1	2.4	3	2	90	6.7			
100 PERCENT																	
DELTAPINE 45A																	
LM	51	35	1.07	45	3.9	75	22	7.9	2.4	3.4	2	3	97	7.0			
TENNESSEE																	
BOLIVAR																	
85 PERCENT																	
STONEVILLE 213																	
SLM	41	34	1.10	46	4.4	81	22	8.3	1.3	2.0	3	3	92	6.3			
SLM	41	34	1.05	45	4.3	79	21	7.2	2.1	3.1	3	3	95	6.6			
LM	51	34	1.03	44	4.0	79	21	7.0	1.7	2.7	3	3	91	6.3			
LM	51	33	1.04	44	4.6	75	20	6.9	2.0	3.1	4	2	87	7.2			
85 PERCENT																	
DIXIE KING II																	
SLM	41	34	1.04	46	4.3	79	20	6.8	1.5	2.3	3	3	93	5.9			
SLM	41	34	1.03	45	4.0	77	21	6.4	1.2	2.2	3	3	95	5.2			
LM	51	34	1.04	47	4.0	80	19	6.3	1.4	2.2	3	3	94	5.9			
70 PERCENT																	
HANCOCK																	
SLM LT SP	42	33	1.03	44	4.1	81	21	6.9	1.6	2.5	4	4	91	5.1			
SLM LT SP	42	34	1.03	43	4.4	82	20	7.4	1.5	2.3	3	4	93	6.5			
SLM LT SP	42	34	1.01	44	4.4	82	22	6.5	1.4	2.6	3	3	94	5.6			
LM	51	33	1.00	43	4.1	76	20	6.5	1.2	2.1	3	3	94	6.2			
90 PERCENT																	
REX SMOOTH LEAF																	
SLM	41	35	1.09	45	4.4	87	22	7.0	2.2	3.1	2	3	100	5.5			
SLM	41	34	1.09	45	4.1	84	22	6.6	1.6	2.9	2	3	97	5.6			
LM	51	34	1.09	44	3.9	80	21	6.4	1.9	2.9	3	2	91	6.4			

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Grade	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprftns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s blechd. yarn		Color - 22s dyed yarn	
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Reflect- ance	Yellow- ness	Reflect- ance	Blue- ness
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	tb	Index	Rd	tb	Index
SOUTH CENTRAL																	
MISSISSIPPI																	
SENATH																	
AUBURN M																	
100 PERCENT																	
SLM		41 34	103	38	6.9	5.3	100	80	37	29	65	70.4	11.6	99	85.7	3.3	106
SLM		41 34	99	34	7.0	4.9	100	70	19	17	63	65.8	10.6	86	85.0	3.3	104
LM		51 34	100	33	6.6	4.4	100	70	15	14	63	66.5	10.5	87	84.7	3.0	104
LM		51 33	93	30	6.1	4.4	110	70	21	18	59	63.0	9.2	79	81.5	3.8	94
75 PERCENT																	
DELTA PINE 16																	
SLM		31 34	115	42	7.1	5.8	100	70	22	20	70	71.1	11.3	99	86.3	3.2	107
SLM		41 34	105	37	6.9	5.3	90	70	15	16	70	67.4	10.4	89	86.5	2.7	110
SLM		41 34	103	35	7.1	5.3	90	70	15	15	66	68.3	10.1	89	84.4	2.7	105
LM		51 33	92	30	5.9	4.5	100	60	34	23	59	62.7	9.2	78	79.4	3.5	90
24.8 96																	
SIKESTON																	
DELTA PINE 45A																	
LM		51 35	99	35	6.8	5.3	90	70	24	14	64	65.1	10.8	85	84.2	2.9	104
27.2 111																	
TENNESSEE																	
BOLIVAR																	
STONEVILLE 213																	
85 PERCENT																	
SLM		41 34	99	34	6.7	4.9	110	80	23	11	65	65.2	10.9	86	84.5	3.7	101
SLM		41 34	99	35	6.5	5.0	100	70	22	9	63	67.9	10.9	91	84.9	3.6	103
LM		51 34	93	31	6.2	4.4	90	80	24	16	59	63.1	10.2	80	83.8	3.3	101
LM		51 33	79	25	5.4	4.2	110	80	23	18	52	64.4	9.7	82	82.1	3.3	97
29.4 93																	
CLARKSBURG																	
DIXIE KING II																	
85 PERCENT																	
SLM		41 34	94	31	6.1	4.2	110	100	10	7	60	65.0	10.8	85	85.9	3.6	105
SLM		41 34	93	31	6.2	4.1	120	90	13	12	63	65.1	10.7	85	84.2	3.6	101
LM		51 34	88	27	5.8	3.8	110	90	11	7	59	65.1	10.4	84	83.6	3.5	100
28.9 98																	
FAYETTEVILLE																	
HANCOCK																	
70 PERCENT																	
SLM LT SP		42 33	100	34	6.5	4.7	100	70	30	22	63	64.5	11.7	87	83.6	5.0	94
SLM LT SP		42 34	94	31	6.3	4.4	100	80	12	12	60	65.7	11.8	89	83.2	4.9	93
SLM LT SP		42 34	93	29	6.3	4.3	100	80	17	13	52	65.1	10.6	85	83.5	3.6	99
LM		51 33	87	29	5.6	4.4	90	70	22	15	52	66.7	10.2	87	82.9	3.4	99
27.5 105																	
MILLINGTON																	
REX SMOOTH LEAF																	
90 PERCENT																	
SLM		41 35	108	38	6.5	5.2	120	100	19	14	65	70.9	11.5	99	85.5	3.2	106
SLM		41 34	103	36	6.3	4.7	120	90	15	13	65	68.0	10.8	91	84.3	3.6	101
LM		51 34	93	31	6.1	4.2	100	80	13	16	61	65.5	10.1	84	82.3	3.6	96
27.4 108																	
26.7 106																	

REX SMOOTH LEAF

MILLINGTON

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire		Fiber strength		Elon- gation 1/8"		Shirley Analyzer		Color of raw stock			Picker & Card waste Pct.
Grade	Staple	2.5% span length	50/2.5 unif.	Rdg.	Mpsi	Zero Gage	1/8" Gage	G/tex	Pct.	Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.						Pct.	Pct.	No.	No.	Index	Pct.
<b>SOUTH CENTRAL</b>															
<b>TENNESSEE</b>															
<b>RIOGEELY</b>															
<b>DELTA PINE 16</b>															
SLM	41	35	1.12	44	4.2	80	23	8.3	1.1	1.8	1.8	1	3	100	4.9
SLM	41	35	1.10	43	4.1	76	21	8.4	1.0	1.7	1.7	1	3	101	4.8
SLM	41	35	1.08	43	4.0	77	21	8.0	1.0	1.7	1.7	3	2	95	5.4
LM	51	34	1.11	42	3.7	78	22	8.0	1.6	2.4	2.4	2	2	95	6.0
<b>SOMERVILLE</b>															
<b>OELTA PINE 16</b>															
SLM	41	34	1.07	44	4.1	83	22	7.9	1.2	2.1	2.1	2	3	96	6.1
SLM	41	34	1.06	45	4.3	81	23	8.0	1.8	2.5	2.5	2	3	99	5.7
SLM	41	34	1.07	42	3.8	79	22	8.0	1.2	1.9	1.9	2	2	99	5.5
LM	51	34	1.05	42	3.9	79	21	7.6	1.8	2.4	2.4	3	2	95	6.1
<b>SOUTH WEST</b>															
<b>SOUTH TEXAS</b>															
<b>ALAMO</b>															
<b>STONEVILLE 213</b>															
SLM LT SP	42	34	1.06	47	4.4	81	20	6.5	1.9	3.1	3.1	3	4	92	6.6
SLM	41	34	1.04	47	5.1	82	23	6.4	1.8	2.4	2.4	2	4	97	5.7
LM	51	34	1.08	43	3.2	82	24	7.2	3.8	4.7	4.7	3	3	94	7.2
<b>AUSTWELL</b>															
<b>STONEVILLE 213</b>															
SLM	41	33	1.04	46	5.0	92	22	5.3	2.2	2.8	2.8	2	3	99	6.2
SLM	41	34	1.08	48	4.8	82	24	7.4	2.2	2.9	2.9	2	3	98	5.9
LM	51	34	1.07	45	5.0	83	21	6.6	2.8	3.4	3.4	4	3	85	6.6
<b>CORPUS CHRISTI</b>															
<b>STONEVILLE 7A</b>															
M LT SP	32	32	1.03	47	5.2	83	21	6.3	1.4	2.0	2.0	2	5	98	5.7
M LT SP	32	32	1.02	46	5.3	84	23	6.0	1.2	1.7	1.7	2	4	97	5.3
M LT SP	32	32	1.01	44	5.2	88	21	6.4	1.5	2.3	2.3	2	4	98	5.7
<b>DANEVANG</b>															
<b>OELTA PINE 16</b>															
SLM	41	35	1.07	44	4.1	83	22	6.4	2.4	3.2	3.2	2	3	99	6.5
SLM	41	35	1.11	48	4.1	84	23	6.7	2.7	3.3	3.3	2	3	99	6.2
SLM LT SP	42	34	1.09	46	4.6	84	24	6.7	2.1	2.8	2.8	2	3	98	6.0
<b>HARLINGEN</b>															
<b>STONEVILLE 7A</b>															
SLM	41	34	1.07	47	4.2	84	22	5.4	2.0	2.8	2.8	2	3	96	5.4
LM	51	34	1.06	46	4.0	89	23	6.0	3.4	4.0	4.0	3	2	93	6.2
LM LT SP	52	34	1.08	46	3.3	84	22	6.4	3.8	4.8	4.8	3	3	95	8.3

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972 --Continued

Name	Code	32d In.	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprctns.		Spinning Potential	Color - 22s gray yarn			Color - 22s bichd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Staple		Lbs.	Pct.	Lbs.	Pct.	Index	Index	No.	No.	No.	Rd	tb	Index	Rd	tb	Index	Rd	tb	Index
SOUTH CENTRAL																				
TENNESSEE																				
RIDGELY																				
OELTAPINE 16																				
SLM	41 35	107	39	7.6	5.6	110	80	19	10	75	69.8	10.5	94	85.0	3.0	105	25.9	27.9	114	
SLM	41 35	102	37	7.2	5.7	102	90	23	20	71	69.9	10.5	94	85.8	2.8	108	26.3	28.1	114	
SLM	41 35	102	36	6.9	5.2	90	70	19	15	70	66.9	9.4	85	84.0	2.9	103	27.6	27.4	108	
LM	51 34	101	36	6.4	4.9	90	60	34	23	62	67.3	9.5	86	81.6	3.1	97	27.0	25.3	101	
SOMERVILLE																				
DELTAPINE 16																				
SLM	41 34	103	35	6.6	4.8	100	70	11	11	66	66.1	10.7	87	84.4	3.6	101	26.8	27.0	108	
SLM	41 34	100	33	6.7	4.7	110	80	17	13	64	67.9	10.7	90	84.3	3.6	101	27.2	27.0	108	
SLM	41 34	106	37	6.9	5.0	100	70	18	15	74	68.7	9.9	90	84.9	2.8	106	27.7	26.6	105	
LM	51 34	92	30	6.0	4.0	100	70	26	16	62	67.0	9.6	86	82.5	3.7	97	28.5	24.5	95	
SOUTH WEST																				
STONEVILLE 213																				
ALAMO																				
SLM LT SP	42 34	100	35	6.2	4.7	120	90	22	18	61	65.6	11.8	89	85.1	3.7	103	26.9	27.1	109	
SLM	41 34	102	37	6.3	5.2	120	100	15	11	61	71.1	11.6	100	85.7	3.1	106	26.3	27.8	113	
LM	51 34	107	41	7.0	5.5	100	80	41	32	66	69.1	11.3	95	86.5	3.6	106	26.6	26.2	106	
AUSTWELL																				
STONEVILLE 213																				
SLM	41 33	103	35	5.9	4.7	120	100	22	20	57	71.6	11.0	99	85.3	3.3	105	26.8	27.2	109	
SLM	41 34	105	40	6.3	5.4	120	100	21	14	64	69.0	11.1	94	84.7	3.1	104	26.1	27.8	113	
LM	51 34	98	34	5.9	4.3	130	100	20	14	61	68.0	11.1	92	85.2	3.2	105	27.4	27.2	108	
CORPUS CHRISTI																				
STONEVILLE 7A																				
LT SP	32 32	101	36	6.0	4.8	130	100	14	12	60	68.9	12.1	98	85.9	3.2	107	26.5	27.3	110	
LT SP	32 32	98	34	5.9	4.7	130	100	14	13	56	69.5	12.1	99	84.7	3.2	104	26.7	26.7	107	
LT SP	32 32	94	31	5.6	4.2	130	100	14	11	57	68.7	12.2	98	85.4	3.1	106	26.3	27.3	111	
OANEVANG																				
DELTAPINE 16																				
SLM	41 35	109	41	6.6	5.2	120	90	22	15	69	71.1	11.0	98	86.7	3.1	109	26.6	27.7	112	
SLM	41 35	117	47	7.1	6.6	120	100	24	16	74	71.2	11.3	99	86.7	3.1	109	25.4	28.1	116	
SLM LT SP	42 34	108	42	6.4	5.2	120	100	22	18	72	68.0	11.5	94	85.3	3.1	106	26.0	26.2	107	
HARLINGEN																				
STONEVILLE 7A																				
SLM	41 34	109	41	6.5	5.4	120	100	18	14	65	69.4	10.9	95	86.1	3.3	107	27.8	27.2	107	
LM	51 34	109	41	6.5	5.3	120	100	19	15	64	69.1	11.6	96	87.3	3.4	109	26.9	26.5	106	
LM LT SP	52 34	103	40	6.4	5.4	110	80	40	31	61	66.5	11.8	91	85.7	3.5	105	28.5	25.7	100	

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification				Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		32d in.	In.	Pct.	Rdg.		Mpsi	G/tex		Pct.	Pct.	No.	Gray- ness	Yellow- ness	
Name	Code													Pct.	
SOUTH WEST															
SOUTH TEXAS															
SAN JUAN															
TPSA 1633															
100 PERCENT*															
SLM LT SP 42	34	1.05	45	3.9	77	20	5.2	2.0	2.8	3	4	90	5.6		
SLM LT SP 42	34	1.07	44	3.6	80	21	4.9	2.0	3.0	3	4	92	6.3		
SLM LT SP 42	34	1.07	45	4.2	83	21	5.6	2.6	3.8	3	4	91	5.4		
CENTRAL TEXAS															
BATESVILLE															
STONEVILLE 213															
85 PERCENT															
SLM 41	34	1.09	47	4.6	84	22	6.9	2.0	2.6	2	3	97	5.7		
SLM 41	34	1.09	46	4.3	82	23	6.8	1.5	2.2	3	4	94	5.6		
SLM 41	34	1.07	44	4.0	84	22	7.4	1.4	2.0	3	4	96	5.7		
NAVASOTA															
DELTAPINE 16															
95 PERCENT															
SLM 41	34	1.10	45	4.7	84	21	7.2	2.1	3.1	2	2	96	5.6		
SLM 41	35	1.12	44	4.0	81	22	8.3	1.9	3.0	2	2	99	5.5		
SLM LT SP 42	35	1.14	43	4.4	78	22	7.1	2.0	3.2	3	3	94	6.5		
NEEDVILLE															
STONEVILLE 7A															
100 PERCENT															
SLM 41	33	1.05	45	5.2	90	21	5.2	2.0	2.6	2	3	97	6.1		
SLM 41	34	1.10	44	5.1	90	21	6.1	1.5	2.6	2	3	98	5.8		
SLM 41	34	1.06	47	5.1	85	20	6.3	1.2	2.1	2	3	97	5.0		
NORTHWEST TEXAS															
ACKERLY															
LOCKETT 4789															
70 PERCENT															
1/ SLM LT SP 42	31	0.96	43	3.3	74	19	6.9	4.5	6.2	2	4	97	8.1		
SLM LT SP 42	32	0.98	44	3.1	76	20	6.6	3.2	4.4	2	2	97	9.1		
2/ LM LT SP 52	32	0.97	43	2.6	78	20	6.8	5.0	7.1	3	5	96	10.1		
LAMESA															
PAYMASTER III															
70 PERCENT															
3/ LM 51	32	1.02	44	3.1	83	23	6.8	3.8	5.5	3	3	94	8.8		
SLM 41	32	1.00	45	3.6	76	22	7.0	2.1	3.8	2	3	98	7.0		
2/ LM LT SP 52	32	0.93	41	2.7	77	20	6.6	4.6	6.8	3	3	94	9.6		
LUB80CK															
COKER 312															
100 PERCENT*															
SLM 41	34	1.12	40	3.4	77	22	7.2	2.3	3.8	2	3	99	6.0		
SLM 41	35	1.15	40	3.4	75	22	7.2	2.2	3.2	1	3	101	6.8		
SLM LT SP 42	35	1.11	40	3.1	79	22	7.0	2.6	4.0	2	4	97	7.4		
* 100 percent selected for tests, less than 100 percent in the area															
1/ Reduced from 32 because of bark															
2/ Reduced from 42 because of bark															
3/ Reduced from 41 because of bark															

\* 100 percent selected for tests, less than 100 percent in the area

1/ Reduced from 32 because of bark

2/ Reduced from 42 because of bark

3/ Reduced from 41 because of bark

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfrcts.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s bleichd. yarn		Color - 22s dyed yarn	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Reflect- ance	Index		Reflect- ance	Index	Reflect- ance	Index	Reflect- ance	Index
Grade	Staple										Rd	+b	Rd	+b	Rd	+b
SOUTH WEST																
SOUTH TEXAS																
SAN JUAN																
TPSA 1633																
100 PERCENT*																
SLM LT SP 42	34	98	36	6.4	5.0	120	100	22	18	62	67.1	11.6	92	86.2	3.6	106
SLM LT SP 42	34	99	36	6.3	5.0	110	90	33	23	67	67.5	12.0	94	86.7	3.8	106
SLM LT SP 42	34	100	37	6.2	4.7	120	90	22	16	64	67.9	12.1	96	86.5	3.8	106
CENTRAL TEXAS																
BATESVILLE																
85 PERCENT																
SLM	41 34	113	43	6.8	5.8	120	90	20	18	66	71.0	11.8	100	85.8	3.6	105
SLM	41 34	110	42	6.9	5.5	120	100	26	20	65	69.0	11.5	96	85.6	3.3	105
SLM	41 34	100	37	6.3	5.2	120	90	26	22	70	70.9	11.5	99	86.2	3.4	106
NAVASOTA																
DELTAPINE 16																
95 PERCENT																
SLM	41 34	97	34	5.7	4.5	120	90	15	14	62	67.4	11.0	90	84.6	3.1	104
SLM	41 35	105	40	6.4	5.2	120	90	17	12	65	71.0	10.4	96	84.5	2.7	105
SLM LT SP 42	35	99	37	5.9	4.5	120	90	18	15	65	67.0	10.7	89	84.2	2.8	104
NEEDVILLE																
STONEVILLE 7A																
100 PERCENT																
SLM	41 33	94	31	5.2	3.9	130	100	22	14	57	71.6	11.4	100	85.3	3.1	106
SLM	41 34	95	29	5.4	3.9	130	100	18	14	58	71.3	11.0	98	84.8	3.1	104
SLM	41 34	96	32	5.3	4.0	120	90	15	11	54	72.0	11.1	100	84.1	3.0	103
NORTHWEST TEXAS																
ACKERLY																
LOCKETT 4789																
70 PERCENT																
1/SLM LT SP 42	31	80	28 2/	6.0	5.2	120	90	31	22	43	69.4	11.4	96	84.8	3.5	103
SLM LT SP 42	32	85	29 2/	5.9	4.8	110	90	31	27	45	69.8	12.2	100	85.6	3.7	104
3/LM LT SP 52	32	93	32	6.5	4.8	100	80	64	45	50	66.7	12.7	95	85.4	4.4	101
LANESA																
PAYMASTER III																
70 PERCENT																
1/ LM	51 32	99	38	5.9	4.6	90	70	62	42	56	70.0	11.3	97	83.9	3.6	100
SLM	41 32	97	35	6.6	5.0	110	80	37	28	56	70.3	11.7	99	84.5	3.5	102
3/ LM LT SP 52	32	78	26 2/	6.0	5.0	80	70	61	56	25 5/	67.4	12.0	94	84.5	4.3	99
LUBBOCK																
COKER 312																
100 PERCENT*																
SLM	41 34	102	39	6.8	5.1	110	80	39	28	63	68.7	11.8	96	84.9	3.4	103
SLM	41 35	105	40	7.0	5.4	110	80	48	43	61	70.1	11.0	96	84.6	3.2	103
SLM LT SP 42	35	101	38	7.1	5.4	80	70	47	38	59	66.7	12.3	94	84.1	3.6	101

\* 100 percent selected for tests, less than 100 percent in the area

1/ Reduced from 32 because of bark

2/ End breakage too high to spin 50s yarn. 44s spun and strength adjusted to equivalent of 50s

3/ Reduced from 42 because of bark

4/ Reduced from 41 because of bark

5/ This is an estimated value below the range of the test

\* 100 percent selected for tests, less than 100 percent in the area

1/ Reduced from 32 because of bark

2/ End breakage too high to spin 50s yarn. 44s spun and strength adjusted to equivalent of 50s

3/ Reduced from 42 because of bark

4/ Reduced from 41 because of bark

5/ This is an estimated value below the range of the test

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	No.	No.	Index	Pct.
SOUTH WEST														
NORTHWEST TEXAS														
LU880CK														
COKER 5110														
SLM	41	35	1.10	42	3.5	75	22	7.5	2.1	3.6	2	3	100	6.4
SLM	41	34	1.07	43	3.4	76	22	7.3	2.1	3.2	2	3	100	7.1
SLM LT SP	42	34	1.10	40	2.7	75	21	7.4	3.5	4.8	2	4	97	7.9
RAYLAND														
LOCKETT 4789-A														
100 PERCENT														
SLM LT SP	42	32	1.03	47	4.9	87	23	5.3	2.1	3.6	4	4	90	6.9
SLM LT SP	42	32	1.06	44	4.5	85	23	5.9	2.7	3.8	3	4	92	6.5
SLM LT SP	42	33	1.06	45	4.6	88	23	6.2	2.8	4.4	3	3	93	7.7
ROPESVILLE														
LOCKETT 4789-A														
100 PERCENT														
M LT SP	32	32	1.05	42	3.3	76	20	7.2	1.6	3.2	2	4	100	5.4
SLM LT SP	42	32	1.05	41	2.8	75	22	7.9	1.7	3.1	2	3	100	7.7
SLM LT SP	42	32	1.03	43	2.9	76	22	7.1	2.2	3.0	3	4	95	6.5
VERNON														
LOCKETT BXL														
100 PERCENT														
LM	51	32	1.02	47	4.9	88	22	5.7	2.3	3.6	3	3	92	7.0
LM	51	33	1.05	45	4.7	90	24	5.5	2.2	3.5	3	2	91	7.1
LM	51	33	1.06	45	4.8	87	23	6.1	3.4	4.5	4	3	89	7.7
OKLAHOMA														
WEBBER FALLS														
DELTAPINE 16														
95 PERCENT														
LM	51	34	1.08	46	4.7	88	24	7.4	2.5	3.7	4	3	89	6.6
LM	51	34	1.14	44	4.6	80	23	7.0	2.5	4.2	5	3	84	6.2
LM	51	34	1.12	44	4.9	81	24	6.9	3.3	4.0	3	2	92	6.5
WEST														
ARIZONA														
BUCKEYE														
DELTAPINE 16														
100 PERCENT														
SLM	41	35	1.13	44	5.1	86	24	6.1	2.0	2.9	2	2	96	5.3
SLM	41	34	1.09	45	4.9	86	24	6.8	1.3	2.4	2	2	98	5.4
LM	51	34	1.07	43	4.3	86	23	6.7	2.7	3.8	3	2	90	6.2
PARKER														
DELTAPINE 16														
94 PERCENT														
M	31	34	1.08	45	4.8	88	22	6.5	1.3	2.4	2	4	100	5.3
SLM	41	34	1.12	43	4.6	87	23	6.9	1.3	2.2	2	2	98	5.6
SLM	41	34	1.07	42	4.1	86	23	6.8	1.2	2.4	2	2	100	5.4

\* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprftsns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn			
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	Pct.	50s or 12 tex	22s or 27 tex	Index	No.	22s or 27 tex		Index	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	Index	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																					
NORTHWEST TEXAS																					
LUBBOCK																					
COKER 5110																					
SLM	41 35	98	38	6.5	4.8	110	80	44	35	66	71.6	11.3	100	84.9	3.1	105	26.6	26.6	107		
SLM	41 34	100	39	7.2	5.9	100	80	42	31	61	69.6	11.5	97	84.7	3.2	104	26.9	27.3	109		
SLM LT SP	42 34	98	37	7.5	5.8	70	60	72	59	58	67.7	11.4	93	82.8	3.7	97	27.2	26.3	105		
RAYLAND																					
LOCKETT 4789-A																					
SLM LT SP	42 32	99	34	5.6	3.7	120	100	20	16	53	68.7	11.4	95	83.6	3.3	101	27.2	27.4	109		
SLM LT SP	42 32	104	38	5.6	4.3	120	90	20	17	57	68.0	11.2	93	83.3	3.4	100	27.0	26.7	107		
SLM LT SP	42 33	103	36	5.9	4.4	120	100	26	20	60	68.0	11.0	92	84.4	3.2	103	26.9	27.3	109		
ROPESVILLE																					
LOCKETT 4789-A																					
M LT SP	32 32	95	35	7.2	5.6	120	90	27	23	55	68.7	10.6	92	85.8	3.6	105	26.7	26.9	108		
SLM LT SP	42 32	98	38	7.4	5.6	100	70	46	37	59	67.7	12.2	96	85.3	3.9	102	27.7	25.9	102		
SLM LT SP	42 32	101	36	7.4	5.5	110	80	38	29	59	65.4	12.2	90	84.8	3.8	102	28.5	25.1	97		
VERNON																					
LOCKETT 8XL																					
LM	51 32	99	34	5.7	4.0	120	90	17	11	54	66.0	11.1	88	84.0	3.3	102	27.4	26.4	105		
LM	51 33	104	39	6.0	4.5	130	100	24	16	55	68.7	10.7	92	83.2	3.2	100	27.9	26.6	105		
LM	51 33	106	37	5.8	4.3	120	100	20	12	57	67.9	10.3	89	82.6	3.0	100	27.8	26.1	103		
OKLAHOMA																					
WEBBER FALLS																					
OELTAPINE 16																					
LM	51 34	108	39	6.1	4.4	120	100	14	7	63	66.6	10.4	87	83.4	3.4	100	27.5	26.4	105		
LM	51 34	103	39	6.3	4.6	130	100	17	12	67	64.5	9.9	82	83.2	2.9	101	28.2	25.9	101		
LM	51 34	106	37	6.5	5.0	130	90	13	9	63	68.4	9.5	88	82.1	2.8	99	28.4	26.1	102		
WEST																					
ARIZONA																					
BUCKEYE																					
OELTAPINE 16																					
SLM	41 35	107	40	6.0	4.6	120	100	14	10	63	71.1	10.0	95	84.8	2.6	106	26.1	27.9	113		
SLM	41 34	108	40	5.9	4.3	130	100	11	7	64	70.9	10.2	95	85.2	2.8	106	26.5	27.1	109		
LM	51 34	99	34	5.7	3.8	120	90	17	11	58	72.8	10.0	98	84.0	2.9	103	28.8	25.9	100		
PARKER																					
OELTAPINE 16																					
M	31 34	95	31	5.7	3.9	120	90	20	17	57	71.6	11.1	99	84.9	2.9	105	28.0	26.5	104		
SLM	41 34	106	39	6.2	4.3	120	90	14	11	63	71.2	10.2	96	85.2	2.6	107	27.2	26.6	106		
SLM	41 34	102	35	6.0	4.3	120	90	18	14	59	72.4	10.4	98	85.8	2.7	108	27.2	25.9	103		

\* 100 percent selected for tests, less than 100 percent in the area

\* 100 percent selected for tests, less than 100 percent in the area

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972 --Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST													
ARIZONA													
SAFFORD													
DELTAPINE 16													
M	31	36	1.09	45	4.3	80	22	8.6	1.0	1.7	1	102	4.6
SLM	41	35	1.11	44	4.0	77	21	7.8	1.2	2.9	3	95	5.3
SLM	41	35	1.07	43	4.1	75	21	8.1	1.1	3.0	3	94	6.5
STANFIELD													
DELTAPINE 16													
M LT GR	36	34	1.10	44	4.6	83	23	7.1	1.3	2.9	5	84	6.4
SLM	41	34	1.07	43	4.8	86	23	6.9	1.7	3.4	2	96	5.9
SLM	41	34	1.05	43	4.8	84	23	6.3	1.7	2.6	2	97	5.7
YUMA													
DELTAPINE 16													
M	31	35	1.11	44	4.1	90	24	7.2	1.0	2.0	1	103	4.8
SLM	41	34	1.06	43	4.5	86	23	6.5	1.2	2.6	2	97	6.0
LM	51	34	1.09	44	4.5	84	24	6.3	1.7	3.3	4	85	6.1
CALIFORNIA													
BAKERSFIELD													
ACALA SJ-1													
100 PERCENT													
M	31	35	1.10	45	4.6	95	27	6.2	1.2	2.3	1	102	5.1
SLM	41	36	1.13	46	4.3	97	27	5.7	2.4	3.1	2	99	5.6
SLM	41	36	1.13	47	4.5	96	27	5.2	1.5	2.8	2	99	5.3
BAKERSFIELD													
ACALA SJ-1													
100 PERCENT													
M	31	36	1.14	47	4.2	102	28	6.4	1.4	2.4	1	101	5.4
SLM	41	36	1.17	46	4.6	94	25	5.9	2.0	3.0	1	101	5.2
SLM	41	36	1.12	46	4.3	94	26	5.8	1.6	3.0	2	99	5.6
BRAWLEY													
DELTAPINE SMOOTH LEAF													
70 PERCENT													
M	31	34	1.08	42	4.7	86	23	6.2	1.0	2.0	1	102	5.2
M	31	34	1.06	44	4.6	89	24	5.9	0.8	1.9	1	101	4.2
M	31	34	1.08	45	4.9	86	23	6.4	0.9	1.9	1	102	4.6
CHOWCHILLA													
ACALA SJ-1													
100 PERCENT													
M	31	36	1.11	46	4.4	97	27	5.3	1.3	2.0	1	101	5.0
SLM	41	36	1.11	45	4.3	96	26	5.5	1.6	2.7	2	99	5.6
SLM	41	36	1.12	47	4.2	91	27	5.5	1.4	2.7	3	95	5.2

\* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Spinning Potential	Color - 22s gray yarn			Color-22s blechd. yarn			Color - 22s dyed yarn				
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		Index	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Staple				Pct.	Pct.			No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	+b	Index	
WEST																				
ARIZONA																				
SAFFORD																				
100 PERCENT*																				
DELTAPINE 16																				
M	31	36	108	40	7.0	5.8	120	100	10	9	67	73.1	10.9	101	85.1	2.8	106	24.8	28.5	118
SLM	41	35	97	36	7.1	5.1	120	100	13	10	60	70.3	10.6	95	85.8	2.8	108	27.2	26.7	106
SLM	41	35	93	31	6.1	4.7	120	90	16	10	56	71.4	11.0	98	84.8	3.0	105	28.1	26.5	104
STANFIELD																				
100 PERCENT																				
DELTAPINE 16																				
M LT GR	36	34	93	30	5.2	3.9	120	70	22	16	53	68.4	10.2	90	85.5	2.9	107	27.5	26.9	107
SLM	41	34	95	32	5.5	4.0	120	90	18	12	51	70.6	10.1	94	84.2	3.2	103	27.4	27.2	108
SLM	41	34	92	30	5.2	4.1	120	100	16	12	50	71.7	10.5	98	84.7	3.1	104	29.3	26.1	100
YUMA																				
100 PERCENT																				
DELTAPINE 16																				
M	31	35	105	40	5.7	4.9	120	90	17	12	59	73.5	10.7	101	85.0	2.8	106	27.5	26.8	106
SLM	41	34	90	29	5.5	3.6	120	90	18	14	54	72.9	10.2	99	84.5	3.2	103	29.6	24.7	94
LM	51	34	97	35	5.5	4.0	120	90	19	18	55	69.1	10.4	92	84.9	2.4	107	28.6	26.2	102
CALIFORNIA																				
BAKERSFIELD																				
100 PERCENT																				
ACALA SJ-1																				
M	31	35	126	51	5.4	4.8	130	100	12	9	80	72.4	10.9	100	84.5	2.8	105	26.4	27.8	112
SLM	41	36	124	50	5.7	4.4	130	100	10	6	75	69.3	11.1	95	83.4	2.9	102	26.1	26.8	109
SLM	41	36	125	50	5.9	4.5	130	100	11	7	74	71.8	10.7	98	83.9	2.9	103	26.9	26.4	106
BAKERSFIELD																				
100 PERCENT																				
ACALA SJ-1																				
M	31	36	124	51	5.7	4.9	120	100	12	10	77	71.8	11.1	99	84.2	2.9	104	24.8	27.9	116
SLM	41	36	126	51	5.7	4.6	120	100	10	7	84	69.8	11.1	96	84.1	2.9	103	26.0	27.3	111
SLM	41	36	116	46	6.1	4.7	120	90	18	14	74	71.7	11.4	100	83.7	3.5	100	26.7	26.6	107
BRAWLEY																				
70 PERCENT																				
DELTAPINE SMOOTH LEAF																				
M	31	34	98	32	5.4	3.9	120	90	16	11	57	72.4	10.4	98	83.0	3.1	100	28.7	25.2	97
M	31	34	106	37	5.7	4.3	120	100	9	7	55	72.9	10.1	98	85.2	2.6	107	27.1	27.2	109
M	31	34	95	31	5.1	4.1	120	90	15	12	50	73.3	10.4	100	85.2	2.7	107	26.9	27.5	110
CHOWCHILLA																				
100 PERCENT																				
ACALA SJ-1																				
M	31	36	131	53	5.8	4.6	130	100	14	11	77	70.8	11.4	99	84.2	2.8	104	25.1	27.2	113
SLM	41	36	122	49	5.4	4.1	120	100	13	9	73	70.1	10.8	96	84.1	2.9	103	27.0	25.9	104
SLM	41	36	123	50	6.1	4.7	130	100	12	10	70	66.7	10.0	86	83.8	3.2	102	27.4	26.6	106

\* 100 percent selected for tests, less than 100 percent in the area

\* 100 percent selected for tests, less than 100 percent in the area

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock		
Grade	Code	32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color
Name			In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index
													Pct.
<b>WEST CALIFORNIA CORCORAN</b>													
ACALA SJ-1 100 PERCENT													
M	31	35	1.13	46	4.4	97	27	5.6	1.2	2.1	1	3	102
SLM	41	36	1.11	47	4.1	98	26	5.1	1.3	2.3	2	2	100
SLM	41	35	1.12	47	4.1	93	25	6.2	1.3	2.8	2	2	96
<b>DOS PALOS</b>													
ACALA SJ-1 100 PERCENT													
M	31	36	1.11	46	4.4	96	27	5.4	1.2	1.9	1	3	102
SLM	41	35	1.08	45	4.4	98	25	5.5	1.3	2.4	3	3	95
SLM	41	35	1.09	44	4.2	98	26	4.8	1.0	2.2	2	3	97
<b>EARLIMART</b>													
ACALA SJ-1 100 PERCENT													
M	31	35	1.08	45	4.2	101	27	4.9	1.3	2.2	1	3	101
SLM	41	35	1.12	45	4.2	95	27	5.8	1.4	2.8	3	3	95
SLM	41	35	1.07	44	4.7	98	26	5.1	1.2	2.2	2	3	97
<b>HANFORD</b>													
ACALA SJ-1 98 PERCENT													
M	31	36	1.12	45	4.3	94	26	5.1	1.0	1.9	1	3	101
SLM	41	36	1.11	45	4.4	101	26	5.2	1.5	2.8	2	2	99
LM	51	35	1.12	47	4.4	94	27	5.2	1.7	3.0	4	2	88
<b>HURCN</b>													
ACALA SJ-1 99 PERCENT													
M	31	35	1.09	45	4.5	90	25	5.6	1.7	2.7	1	3	102
M	31	35	1.08	46	4.6	97	26	5.5	1.5	2.5	1	3	101
LM	51	35	1.12	45	4.6	91	27	5.5	2.2	3.4	4	2	89
<b>VISALIA</b>													
ACALA 4-42 95 PERCENT													
M	31	35	1.10	46	4.4	96	27	5.6	0.9	1.9	1	3	103
SLM	41	35	1.08	47	4.4	99	25	5.2	1.0	2.4	3	3	94
LM	51	35	1.09	46	3.8	93	26	5.1	1.8	2.9	5	2	83
<b>WASCO</b>													
ACALA 4-42 100 PERCENT *													
M	31	35	1.08	47	4.5	97	26	5.7	1.6	2.5	1	3	102
M	31	35	1.08	47	4.5	93	26	5.8	1.6	2.4	2	4	101
SLM	41	35	1.07	46	4.3	96	25	6.0	1.7	2.9	2	2	96

\* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn				
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		No.	No.	Rd	tb	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Staple																				
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	No.	Rd	tb	Index	Rd	tb	Index	Rd	tb	Index
WEST																					
CALIFORNIA																					
CORCORAN																					
100 PERCENT																					
M		31	35	128	52	5.6	5.0	120	100	10	6	72	72.5	10.7	99	84.7	2.9	105	25.9	27.6	113
SLM		41	36	122	49	5.5	4.4	120	100	17	14	79	69.4	10.7	94	83.2	3.1	101	26.1	26.8	109
SLM		41	35	116	46	5.9	4.4	130	100	17	14	70	68.9	10.7	93	83.1	3.2	100	26.9	25.7	103
DOS PALOS																					
100 PERCENT																					
M		31	36	126	51	5.7	4.4	120	100	11	9	78	70.6	11.2	98	83.4	2.7	103	25.4	27.4	113
SLM		41	35	118	48	5.5	4.5	120	100	14	8	77	68.0	10.6	90	84.2	3.0	103	26.3	26.9	109
SLM		41	35	119	49	5.8	4.5	130	100	17	12	73	68.5	11.4	94	84.8	3.3	104	27.9	26.0	102
EARLMART																					
100 PERCENT																					
M		31	35	114	43	5.0	4.1	120	90	20	14	61	70.6	11.1	97	84.1	3.0	103	26.4	27.0	109
SLM		41	35	113	43	5.2	4.1	110	80	22	16	62	68.7	10.9	93	84.2	2.9	104	27.9	25.8	101
SLM		41	35	113	43	5.0	4.1	120	90	19	14	61	69.5	10.6	94	82.8	3.6	98	28.4	25.7	100
HANFORD																					
98 PERCENT																					
M		31	36	125	49	5.2	4.2	120	90	15	15	72	70.2	11.0	97	83.4	2.9	102	25.2	27.2	112
SLM		41	36	116	46	5.2	3.6	120	90	18	13	71	71.9	11.3	100	82.9	3.4	99	27.2	26.4	105
LM		51	35	120	49	5.6	4.6	120	100	18	13	70	65.6	9.8	84	82.8	3.2	99	27.8	25.9	102
HURCN																					
99 PERCENT																					
M		31	35	114	43	5.0	3.8	120	90	20	15	62	70.4	11.5	98	83.6	3.0	102	25.7	27.2	111
M		31	35	118	45	5.9	4.5	130	100	11	8	65	71.6	10.9	99	84.2	3.0	103	26.2	26.9	109
LM		51	35	117	47	5.9	4.5	130	100	18	12	70	65.5	9.9	84	83.0	3.1	100	28.3	25.9	101
VISALIA																					
95 PERCENT																					
M		31	35	128	50	5.6	4.6	120	100	15	11	80	71.1	10.9	98	83.9	2.8	103	25.4	26.9	111
SLM		41	35	120	48	5.7	4.4	130	100	12	9	75	68.5	10.3	90	83.4	3.1	101	27.0	26.6	106
LM		51	35	121	49	5.8	4.3	120	90	28	20	72	63.2	10.0	80	83.2	3.6	99	28.4	25.4	99
WASCO																					
100 PERCENT*																					
M		31	35	126	49	5.5	4.3	120	100	11	10	70	71.2	11.0	98	83.5	3.1	101	26.3	27.7	112
M		31	35	125	50	6.1	4.8	130	100	11	7	73	70.4	11.0	97	84.0	3.0	103	25.8	27.0	110
SLM		41	35	117	46	5.7	4.4	130	100	16	10	71	70.2	10.5	95	83.5	2.8	102	27.6	26.0	103
* 100 percent selected for tests, less than 100 percent in the area																					

\* 100 percent selected for tests, less than 100 percent in the area

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	
WEST CALIFORNIA														
WASCO														
ACALA SJ-1														
100 PERCENT														
M	31	35	1.08	46	3.9	96	26	5.6	1.0	2.4	1	3	103	4.6
SLM	41	36	1.13	47	4.2	96	26	5.5	1.7	2.4	1	3	101	4.0
SLM	41	36	1.12	45	4.0	94	26	5.6	1.3	2.5	2	2	97	5.4
WEST TEXAS														
GARDEN CITY														
LOCKETT 4789-A														
100 PERCENT*														
SLM LT SP	42	32	1.02	45	3.9	82	21	6.6	2.0	3.6	4	4	90	7.3
SLM LT SP	42	32	0.99	43	3.9	79	21	6.7	1.7	3.4	4	4	90	6.6
SLM LT SP	42	31	1.02	41	3.7	77	21	6.7	2.4	4.2	4	4	89	6.9
PECOS														
DELTAPINE 16														
100 PERCENT*														
M LT SP	32	35	1.11	45	4.9	78	21	7.6	1.6	2.2	3	4	97	4.8
SLM	41	35	1.12	46	4.3	80	22	7.7	1.4	2.5	2	3	98	5.1
SLM	41	34	1.04	44	3.9	78	19	7.2	2.4	3.4	2	2	97	6.0
PECOS														
STONEVILLE 213														
100 PERCENT*														
M LT SP	32	34	1.10	43	4.1	77	22	9.0	1.5	2.3	2	4	98	5.0
SLM	41	34	1.10	46	4.5	76	21	7.4	1.8	3.0	2	3	97	6.0
SLM	41	34	1.09	41	3.2	73	21	8.4	2.0	3.5	1	2	101	6.1

\* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color - 22s blchd. yarn		Color - 22s dyed yarn	
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Reflect- ance	Yellow- ness	Reflect- ance	Blue- ness
Name	Code	32d In.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	tb	Index	Rd	tb	Index
WEST CALIFORNIA																
WASCO																
ACALA SJ-1																
100 PERCENT																
M	31	35	129	5.2	120	100	100	14	9	79	72.3	10.8	99	84.8	3.1	104
SLM	41	36	124	4.7	120	100	100	14	10	78	71.3	11.2	99	84.1	3.1	103
SLM	41	36	120	4.6	120	100	100	14	11	75	72.2	10.2	97	84.6	3.1	104
WEST TEXAS																
GARDEN CITY																
LOCKETT 4789-A																
100 PERCENT*																
SLM LT SP	42	32	85	6.1	90	70	70	43	32	48	67.0	11.8	93	84.9	3.7	102
SLM LT SP	42	32	86	5.7	120	80	80	41	26	49	67.1	11.8	93	84.5	3.8	101
SLM LT SP	42	31	83	5.6	100	80	80	43	40	43	66.9	12.0	93	85.0	3.8	102
PECOS																
DELTAPINE 16																
100 PERCENT*																
M LT SP	32	35	97	6.3	120	100	100	19	12	65	67.7	11.8	94	84.9	3.3	104
SLM	41	35	98	6.4	120	90	90	22	15	61	69.0	11.0	94	85.0	3.6	103
SLM	41	34	90	6.0	120	90	90	22	20	56	71.6	11.3	100	84.0	3.7	100
STONEVILLE 213																
100 PERCENT*																
M LT SP	32	34	96	6.9	110	80	80	20	15	65	68.1	11.4	94	87.5	3.5	109
SLM	41	34	95	6.4	130	100	100	16	10	61	70.0	11.0	96	86.2	3.1	108
SLM	41	34	94	7.1	120	90	90	28	19	59	73.2	10.4	100	83.6	2.6	104

\* 100 percent selected for tests, less than 100 percent in the area

1/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s

Table 7.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		In.	Pct.	Rdg.	Fiber strength		Elon- gation 1/8"	Shirley Analyzer			Color of raw stock			Pct.
			2.5% span length	50/2.5 unif.				Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color		
Grade	Code	32d in.															
SOUTH EAST																	
ALABAMA																	
ORVILLE																	
COKER 310																	
LM	51	35	1.11	44			4.1	88	25	6.0	3.9	4.2	3	4		96	9.1
LM	51	34	1.07	41			4.3	89	24	6.5	2.3	3.1	4	3		86	9.4
SLM	41	34	1.04	43			4.4	85	24	7.3	1.6	2.6	3	3		92	8.2
SULLIGENT																	
COKER 310																	
LM	51	34	1.09	41			4.3	84	23	7.4	3.1	4.2	3	4		93	8.4
LM	51	34	1.09	43			3.9	84	22	7.1	2.4	3.3	2	3		96	8.6
SLM LT SP 42	42	34	1.03	45			4.4	81	25	5.8	1.1	2.3	4	3		90	7.6
GEORGIA																	
DANIELSVILLE																	
COKER 310																	
SLM	41	35	1.14	43			4.5	90	24	7.3	2.4	3.1	2	3		97	7.5
SLM	41	35	1.14	45			4.2	86	23	6.4	1.5	2.0	2	3		96	6.9
LM	51	34	1.09	44			4.2	88	24	6.6	2.4	3.3	3	2		95	8.1
MADISON																	
COKER 310																	
SLM LT SP 42	42	35	1.11	45			5.1	85	23	7.5	3.1	4.4	2	4		97	8.6
SLM LT SP 42	42	35	1.14	44			4.7	82	24	6.7	3.0	3.8	3	3		93	8.6
SLM LT SP 42	42	35	1.13	46			4.7	85	24	6.3	3.5	4.5	4	3		87	8.2
SLM LT SP 42	42	34	1.12	44			4.7	85	24	7.0	2.9	4.2	3	3		92	10.0
NORTH CAROLINA																	
FALLSTON																	
COKER 310																	
SLM	41	35	1.13	44			4.8	87	23	8.0	2.0	2.7	2	3		99	7.6
SLM LT SP 42	42	35	1.18	45			4.2	83	24	7.3	1.9	3.1	3	4		95	7.5
SOUTH CAROLINA																	
RIDGE SPRINGS																	
COKER 310																	
LM	51	35	1.14	44			4.5	84	23	7.6	3.7	4.2	3	3		95	8.3
LM	51	35	1.16	41			4.0	85	23	7.5	3.3	4.2	2	3		96	9.2
LM	51	35	1.17	43			4.0	83	25	7.4	3.4	4.1	3	3		93	9.3
LM	51	35	1.14	41			3.6	85	24	7.1	3.9	5.1	3	2		95	9.7

Table 7a.--Ootton, American upland long staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s blchd. yarn		Color - 22s dyed yarn			
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Reflect- ance	Yellow- ness		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite		
Grade	Staple	Code	32d In.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	+b	Index	-b	Index	
SOUTH EAST																		
ALABAMA																		
ORVILLE																		
100 PERCENT																		
LM	51	35	114	40	6.1	4.8	100	70	30	29	73	68.3	85.6	3.3	105	26.1	27.6	112
LM	51	34	91	29	5.5	4.1	100	80	12	14	52	64.6	84.2	3.4	102	29.0	26.1	100
SLM	41	34	87	25	5.8	4.0	100	70	19	10	54	66.9	84.6	3.3	103	30.4	24.9	93
SULLIGENT																		
90 PERCENT																		
LM	51	34	108	38	6.5	5.0	100	80	21	16	71	66.6	85.2	4.0	102	27.1	27.1	108
LM	51	34	99	33	6.5	4.8	110	80	9	10	66	68.1	85.4	3.3	105	28.7	26.4	102
SLM LT SP	42	34	91	28	5.8	4.1	120	100	15	12	56	65.1	84.1	3.0	103	28.6	25.9	100
GEORGIA																		
DANIELSVILLE																		
100 PERCENT																		
SLM	41	35	116	43	6.6	5.2	100	80	19	8	76	67.0	84.2	4.2	99	25.9	27.0	110
SLM	41	35	113	40	6.1	4.6	100	90	53	17	74	66.5	84.3	3.6	101	27.4	25.9	103
LM	51	34	104	35	5.8	4.3	110	80	18	17	57	67.9	82.7	4.0	96	31.2	24.3	89
MADISON																		
100 PERCENT																		
SLM LT SP	42	35	104	37	6.2	5.0	110	90	21	12	64	67.2	83.1	3.8	98	26.0	27.7	113
SLM LT SP	42	35	106	37	6.3	4.7	100	90	12	10	66	65.9	83.5	4.1	97	27.7	26.6	105
SLM LT SP	42	35	108	39	5.9	4.7	100	90	51	19	65	62.8	81.9	4.8	91	27.4	25.1	100
SLM LT SP	42	34	99	34	5.7	4.5	110	80	24	22	63	65.3	81.8	4.5	92	27.3	24.9	99
NORTH CAROLINA																		
FALLSTON																		
100 PERCENT																		
SLM	41	35	114	44	6.7	5.4	100	90	23	12	75	69.5	84.7	4.3	99	26.6	27.3	110
SLM LT SP	42	35	115	43	6.5	5.5	110	90	23	18	78	66.1	83.5	4.3	96	26.0	26.8	109
SOUTH CAROLINA																		
RIDGE SPRINGS																		
100 PERCENT																		
LM	51	35	113	41	6.8	5.4	100	90	33	11	72	67.1	83.7	3.3	101	26.5	27.3	110
LM	51	35	112	43	6.8	5.3	90	70	20	14	78	69.1	84.8	3.0	105	26.9	27.3	109
LM	51	35	115	43	6.5	5.2	90	70	17	13	77	67.7	83.5	3.4	100	27.4	26.8	106
LM	51	35	114	42	6.2	5.5	90	80	27	14	76	68.3	84.3	3.0	104	28.0	25.6	100

Table 7.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1972--Continued

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
(Grade)	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL													
MISSISSIPPI													
MORGAN CITY													
COKER 310													
100 PERCENT													
SLM	41	37	1.15	46	4.4	88	25	6.1	2.3	3.0	2	100	8.5
LM	51	37	1.18	44	4.4	91	24	6.6	3.5	4.5	3	95	8.9
LM	51	37	1.17	44	4.0	89	24	6.7	3.6	4.8	2	97	9.5
LM	51	36	1.13	41	3.2	83	24	6.6	3.1	4.7	4	87	9.6
WEST													
NEW MEXICO													
ARTESIA													
ACALA 1517-70													
100 PERCENT*													
M	31	37	1.15	45	3.7	93	27	6.3	1.0	1.7	1	103	6.2
M	31	37	1.21	44	3.7	91	25	6.9	1.0	1.7	1	104	6.1
M	31	36	1.14	41	2.9	91	25	5.8	1.0	2.3	1	103	6.9
HAGERMAN													
ACALA 1517-V													
100 PERCENT*													
SLM	41	37	1.18	45	4.0	94	27	6.3	2.0	3.0	2	99	7.7
SLM	41	37	1.19	43	3.5	90	25	6.5	1.6	2.5	1	101	7.3
SLM	41	37	1.17	44	3.7	89	26	5.9	2.4	3.5	2	99	7.4
HATCH													
ACALA 1517-V													
100 PERCENT*													
SLM	41	37	1.17	45	3.4	84	25	6.6	2.3	3.0	1	102	7.7
SLM	41	37	1.21	45	3.7	85	25	6.9	1.2	2.1	1	102	6.4
SLM	41	37	1.18	46	3.4	88	24	6.4	2.4	3.0	1	102	8.2
WEST TEXAS													
EL PASO													
ACALA 1517-C													
75 PERCENT													
M	31	37	1.18	46	4.2	92	27	6.2	1.2	2.2	1	102	6.8
SLM	41	36	1.19	43	3.9	93	25	6.0	1.0	2.3	2	99	7.1
SLM	41	36	1.14	41	3.2	90	24	6.0	1.8	2.9	1	101	7.8
EL PASO													
ACALA 1517-70													
91 PERCENT													
SLM	41	37	1.16	44	4.0	99	25	6.4	2.1	2.9	2	100	7.4
SLM	41	37	1.13	43	3.7	95	24	7.2	1.0	1.9	2	99	7.5
SLM	41	36	1.15	44	3.4	86	24	6.0	2.0	3.2	2	99	8.2

\* 100 percent selected for tests, less than 100 percent in the area

Table 7a.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1972--Continued

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Name		State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blechd. yarn			Color - 22s dyed yarn		
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Pct.	Pct.	Index	Index	22s or 27 tex	50s or 12 tex		No.	No.	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Com-posite	Reflect-ance	Blue-ness
Grade	Staple	Lbs.	Lbs.										Rd	+b	Index	Rd	+b	Index	Rd	+b	Index
SOUTH CENTRAL																					
MISSISSIPPI																					
MORGAN CITY																					
COKER 310																					
100 PERCENT																					
SLM		41	37	118	44	6.3	4.8	120	90	15	14	77	70.7	11.2	98	85.2	3.1	105	26.8	27.7	111
LM		51	37	116	44	5.9	5.0	90	80	15	13	78	68.7	10.4	91	85.0	2.8	106	27.4	27.3	108
LM		51	37	118	42	6.2	4.9	100	70	17	11	70	68.1	9.7	88	84.3	2.9	104	27.5	27.1	107
LM		51	36	110	42	5.5	4.8	90	60	31	20	76	64.4	9.5	81	81.9	3.0	98	27.8	26.0	102
WEST MEXICO																					
ARTESIA																					
ACALA 1517-70																					
100 PERCENT*																					
M		31	37	133	50	6.4	5.1	90	70	15	14	79	70.9	11.3	99	85.7	3.1	106	27.1	27.1	108
M		31	37	132	52	6.5	5.7	90	70	25	19	90	70.6	11.1	97	85.7	3.1	106	26.1	27.4	111
M		31	36	126	49	6.0	5.0	80	60	28	18	85	71.0	11.0	98	84.1	3.2	102	27.6	25.8	102
HAGERMAN																					
ACALA 1517-V																					
100 PERCENT*																					
SLM		41	37	130	52	6.4	5.3	100	70	26	24	89	68.2	11.0	92	84.3	3.3	102	27.1	26.9	107
SLM		41	37	127	48	6.3	5.3	80	70	49	34	94	70.4	10.8	96	84.1	3.1	103	26.6	26.2	106
SLM		41	37	125	50	6.3	5.1	90	70	29	15	95	70.5	10.8	96	84.3	3.2	103	26.2	26.7	108
HATCH																					
ACALA 1517-V																					
100 PERCENT*																					
SLM		41	37	131	51	6.7	5.8	100	80	14	11	85	69.9	10.8	95	85.2	3.2	105	26.9	26.6	107
SLM		41	37	128	49	6.7	5.6	80	60	28	28	86	70.8	10.4	96	85.0	2.8	106	27.0	26.7	107
SLM		41	37	122	67	6.6	5.3	80	70	21	17	93	71.3	11.0	98	85.1	2.8	106	28.0	25.5	100
WEST TEXAS																					
EL PASO																					
ACALA 1517-C																					
75 PERCENT																					
M		31	37	126	48	6.1	5.0	90	70	26	20	86	69.9	10.9	96	84.7	2.7	106	26.1	27.5	112
SLM		41	36	123	48	6.3	5.0	100	80	44	20	86	69.1	10.6	93	84.8	2.8	106	26.7	27.0	109
SLM		41	36	118	43	6.1	4.6	110	80	8	8	78	69.5	10.3	93	82.0	3.1	98	27.7	25.0	99
EL PASO																					
ACALA 1517-70																					
91 PERCENT																					
SLM		41	37	128	48	6.3	5.0	90	70	35	20	85	68.2	11.3	93	84.2	3.2	103	26.7	27.0	109
SLM		41	37	127	48	6.2	5.0	90	70	35	24	80	69.3	10.7	94	85.2	3.1	105	26.9	26.7	107
SLM		41	36	120	47	6.3	4.8	90	70	14	15	84	69.6	11.0	95	82.9	3.3	99	28.3	25.2	98

\* 100 percent selected for tests, less than 100 percent in the area

\* 100 percent selected for tests, less than 100 percent in the area

Table 7b.--Cotton: Combed yarn processing test results for long staple varieties, by state and market area for samples of modal quality, collected at triweekly intervals, crop of 1972

State, Production Area, Chronological Sampling and Classification				Comber waste	Yarn skein strength				Yarn elongation				Yarn appearance				Yarn imperfections	
Grade	Code	32d in.	Staple		22s or 27 tex	50s or 12 tex	Average Break Factor	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	Pct.	Index	22s or 27 tex	50s or 12 tex	Average	22s or 27 tex	50s or 12 tex
SOUTH EAST ALABAMA																		
ORVILLE																		
COKER 310																		
LM	51	35		131	48	2641	100 PERCENT						100	90		95	17	16
LM	51	34		111	39	2196							110	90		100	8	9
SLM	41	34		109	37	2124							120	90		105	5	5
SULLIGENT																		
COKER 310																		
LM	51	34		124	46	2514	90 PERCENT						120	100		110	21	10
LM	51	34		114	40	2254							120	100		110	5	4
SLM LT SP 42		34		105	36	2055							120	100		110	5	5
GEORGIA																		
DANIELSVILLE																		
COKER 310																		
SLP	41	35		130	48	2630	100 PERCENT						120	100		110	3	2
SLM	41	35		127	47	2572							110	100		105	7	7
LM	51	34		122	43	2417							120	90		105	13	9
MADISON																		
COKER 310																		
SLM LT SP 42		35		124	45	2489	100 PERCENT						130	110		120	9	4
SLM LT SP 42		35		121	45	2456							130	100		115	5	4
SLM LT SP 42		35		124	46	2514							120	100		110	10	8
SLM LT SP 42		34		118	43	2373							120	100		110	14	13
NORTH CAROLINA																		
FALLSTON																		
COKER 310																		
SLM	41	35		134	50	2724	100 PERCENT						120	110		115	10	6
SLM LT SP 42		35		128	49	2633							120	90		105	10	7
SOUTH CAROLINA																		
RIDGE SPRINGS																		
COKER 310																		
LM	51	35		127	47	2572	100 PERCENT						110	100		105	13	5
LM	51	35		129	49	2644							110	90		100	9	6
LM	51	35		134	49	2699							100	80		90	6	6
LM	51	35		131	49	2666							120	90		105	11	8

Table 7b.--Cotton: Combed yarn processing test results for long staple varieties, by state and market area for samples of modal quality, collected at triweekly intervals, crop of 1972

State, Production Area, Chronological Sampling and Classification		Comber waste		Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections	
Grade	Staple			22s or 27 tex	50s or 12 tex	Average break Factor	22s or 27 tex	50s or 12 tex	Pct.	22s or 27 tex	50s or 12 tex	Average	22s or 27 tex	50s or 12 tex
Name	Code	32d in.	Pct.	Lbs.	Lbs.	No.	Pct.	Pct.		Index	Index	Index	No.	No.
SOUTH CENTRAL														
MISSISSIPPI														
MORGAN CITY														
COKER 310														
100 PERCENT														
SLM	41	37	15.0	131	51	2716	6.4	5.1		120	100	110	10	7
LM	51	37	16.4	132	51	2727	6.7	5.2		110	90	100	9	7
LM	51	37	15.5	135	51	2760	6.6	5.3		110	90	100	6	6
LM	51	36	17.2	126	46	2536	6.3	5.0		100	80	90	19	13
WEST														
NEW MEXICO														
ARTESIA														
ACALA 1517-70														
100 PERCENT														
M	31	37	15.9	152	58	3122	6.7	5.5		100	70	85	10	9
M	31	37	15.1	148	58	3078	7.1	5.8		90	70	80	14	13
M	31	36	17.8	146	57	3031	6.4	5.5		90	70	80	12	12
HAGERMAN														
ACALA 1517-V														
100 PERCENT														
SLM	41	37	14.5	148	58	3078	6.5	5.6		100	80	90	15	12
SLM	41	37	15.2	143	54	2923	6.7	5.5		80	70	75	23	21
SLM	41	37	14.7	144	55	2959	6.5	5.4		100	90	95	9	10
HATCH														
ACALA 1517-V														
100 PERCENT														
SLM	41	37	13.3	146	55	2981	7.0	5.9		110	90	100	6	5
SLM	41	37	15.6	142	56	2962	6.6	5.8		100	70	85	15	11
SLM	41	37	14.9	143	55	2948	7.1	5.7		110	80	95	11	9
WEST TEXAS														
EL PASO														
ACALA 1517-C														
75 PERCENT														
M	31	37	15.4	141	55	2926	6.4	5.7		90	80	85	11	8
SLM	41	36	15.1	139	54	2879	6.5	5.0		100	90	95	9	8
SLM	41	36	17.7	138	51	2793	6.3	5.1		110	90	100	4	5
EL PASO														
ACALA 1517-70														
91 PERCENT														
SLM	41	37	16.5	158	56	3138	6.9	5.6		110	80	95	16	12
SLM	41	37	16.9	144	55	2959	6.4	5.3		100	80	90	17	13
SLM	41	36	16.1	139	53	2854	6.4	5.2		110	80	95	19	10

Table 8.--Cotton: American upland extra long staple: Quality characteristics by production areas, crop of 1972

State, Production Area, Chronological Sampling and Classification		Array length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Comber waste
Grade	Staple	Upper Quartile	Coeff. of Var'n		Zero gage	1/8" gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Com- posite		
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	Pct.
WEST														
Arizona														
Agulla														
100 Percent														
SIM	41	40	1.40	31	4.0	108	32	1.5	2.3	3	3	95	8.6	16.4
SIM	41	40	1.40	32	4.0	100	34	1.5	2.4	1	2	101	8.2	16.9
SIM	41	40	1.40	32	4.0	104	33	2.4	2.8	2	2	100	8.0	16.5



Table 9.--, Cotton, American Pima extra long staple: Quality characteristics by production area, crop of 1972

State, Production Area, Chronological Sampling and Classification		Array length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Comber waste
Grade	Staple	Upper Quartile	Coeff. of Var'n		Zero gage	1/8" gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Com- posite		
32d in.		In.	Pct.	Rdgt.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	Pct.
<b>WEST</b>														
<b>ARTIZONA</b>														
<u>Casa Grande</u>														
70 Percent														
5	44	1.48	29	4.0	93	34	7.1	2.4	3.8	5	5	84	9.0	16.6
4	44	1.42	29	3.9	97	33	6.9	1.5	2.8	3	4	92	7.9	19.6
4	44	1.41	32	3.6	95	32	6.7	1.9	2.9	3	4	94	8.8	18.4
90 Percent														
<u>Safford</u>														
5	44	1.47	33	4.0	100	31	8.8	1.2	2.3	5	5	83	7.5	19.3
5	44	1.45	31	3.9	100	34	8.3	2.0	3.3	5	5	84	8.0	17.7
5	44	1.46	34	3.6	91	31	7.3	1.3	2.3	4	5	87	8.5	17.8
100 Percent														
<u>Wenden</u>														
4	44	1.39	33	3.9	94	34	7.8	1.3	2.4	4	4	87	7.1	16.4
5	44	1.46	32	3.7	98	34	7.8	1.7	3.0	4	4	90	8.0	18.9
4	44	1.50	34	3.9	94	32	7.3	1.2	2.4	4	4	91	7.0	16.2
95 Percent														
<u>Columbus</u>														
5	44	1.46	30	3.3	98	29	9.2	2.2	4.1	5	6	82	8.7	16.7
4	44	1.43	32	3.3	97	33	8.6	1.2	2.4	4	5	88	7.5	16.9
4	44	1.42	33	3.3	93	31	8.0	1.9	2.9	3	6	93	7.8	15.2
98 Percent														
<u>El Paso</u>														
4	44	1.52	32	4.0	100	31	9.5	1.5	2.6	4	6	87	8.2	17.5
4	44	1.48	33	3.4	96	31	9.0	1.5	2.7	4	5	86	7.6	18.5
4	44	1.43	33	3.2	100	32	8.7	1.8	3.1	4	5	86	8.4	17.4
99 Percent														
<u>El Paso</u>														
3	44	1.50	33	3.4	103	31	8.6	0.8	1.7	5	6	86	6.6	17.7
4	44	1.47	32	3.3	97	30	8.9	0.8	1.7	5	6	60	7.8	18.3
4	44	1.43	34	2.9	100	33	8.3	1.2	2.8	5	6	86	7.8	18.5
5	44	1.35	38	2.8	91	30	7.4	1.6	3.2	5	6	85	8.8	18.1
100 Percent*														
<u>Pecos</u>														
3	44	1.38	30	4.0	97	33	8.5	0.8	1.5	4	6	91	7.0	17.6
4	44	1.37	32	3.8	99	31	8.4	0.8	2.1	5	6	84	7.2	19.3

\* 100 percent selected for tests, less than 100 percent in the area

Table 9.--Cotton, American Pima extra long staple: Quality characteristics by production area, crop of 1972--(Continued)

State, Production Area, Chronological Sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color - 50s gray yarn				Color-50s bleached yarn		Color - 50s dyed yarn		
		50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Staple	32d in.																
WEST ARIZONA																		
Casa Grande																		
70 Percent																		
5	44	64	37	5.4	4.9	120	120	2	1	65.6	12.9	93	83.1	3.5	99	28.8	25.6	99
4	44	64	35	5.3	4.6	130	120	2	1	68.4	12.4	98	85.0	3.4	104	29.0	26.1	100
4	44	66	36	5.3	4.7	110	120	1	1	67.3	12.5	96	84.3	3.7	101	27.0	27.2	109
Safford																		
90 Percent																		
5	44	63	35	5.5	5.1	110	110	2	1	62.7	13.3	87	84.5	3.9	100	28.6	26.4	102
5	44	64	34	5.9	5.0	120	120	2	2	64.0	13.3	91	84.1	3.4	101	29.1	25.4	97
5	44	63	35	5.1	4.8	110	120	4	2	64.7	13.0	92	83.1	3.5	97	27.3	26.8	107
Wenden																		
100 Percent																		
4	44	65	35	5.7	4.9	120	120	2	1	66.8	13.0	97	84.6	3.4	103	29.0	25.6	98
5	44	64	36	5.4	4.9	130	120	3	1	67.1	12.7	96	84.9	3.5	103	29.0	24.2	93
4	44	62	35	5.5	4.7	120	120	2	1	68.1	12.7	98	83.2	3.9	97	27.7	26.8	106
NEW MEXICO																		
Columbus																		
95 Percent																		
5	44	63	36	5.8	5.2	110	100	2	2	61.9	13.1	85	83.5	5.3	92	27.3	26.4	105
4	44	65	35	5.8	5.3	120	110	2	1	65.2	13.3	94	83.5	4.1	97	28.3	25.5	99
4	44	62	35	5.5	4.9	120	120	2	1	65.0	13.3	94	84.2	4.6	97	27.5	26.2	104
WEST TEXAS																		
El Paso																		
98 Percent																		
4	44	64	36	6.1	5.4	120	130	5	3	61.8	13.4	86	83.8	4.2	98	25.9	26.6	109
4	44	63	35	5.7	5.2	110	110	3	1	62.3	13.2	86	83.8	4.5	96	27.9	26.4	104
4	44	63	34	5.7	4.8	110	110	2	1	64.7	13.5	94	82.6	4.0	96	28.3	25.6	100
El Paso																		
99 Percent																		
3	44	63	35	6.1	5.1	110	120	4	4	61.8	13.4	86	84.0	4.4	97	26.6	27.5	111
4	44	61	33	5.7	5.0	100	100	3	5	61.3	13.2	84	83.5	4.9	94	26.4	26.9	109
4	44	62	34	5.8	4.8	100	110	4	3	62.4	13.5	87	82.4	3.9	95	27.7	26.0	103
5	44	63	35	5.3	4.7	90	90	5	5	61.9	13.3	86	82.0	4.4	93	26.7	26.5	107
Peros																		
100 Percent*																		
3	44	63	35	5.7	5.0	110	120	3	2	62.3	13.7	88	83.9	4.1	98	27.6	27.1	107
4	44	61	34	5.9	4.9	100	100	2	2	62.0	13.4	86	83.1	4.4	95	28.6	25.8	100

\* 100 percent selected for tests, less than 100 percent in the area

Table 10.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 57 short staple samples collected at biweekly intervals from selected gin points, crop of 1972

Item	Grade	Staple	Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential							
			2.5% span	In.		50/2.5 unif.	Rdg.		Mpsi	G/tex	Pct.	Zero gage	1/8" gage			Pct.	Total waste	Gray- ness	No.	Yellow- ness	Index	Com- posite
<b>Sample Distribution:</b>																						
Mean.....	89.3	31.3	.97	.97	45.1		4.08	79.5		20.7	6.95	2.41	3.71	6.75								
Standard deviation (±).....	7.3	.9	.04	.04	1.2		.68	5.1		.8	.57	1.11	1.28	1.27								
<b>Correlation Coef. for:</b>																						
<b>Classification:</b>																						
Grade.....index	+1.95	+1.95	+200	+200	-.046		+.562	+.370		-.340	-.291	-.774	-.836	-.835								
Staple.....32d inches			+.699	+.699	-.040		+.263	-.029		+.155	-.014	-.159	-.189	-.280								
Fiber length:																						
2.5% span.....inches	+200	+.699			-.098		+.330	-1.03		+.173	+.015	-.292	-.287	-.382								
50/2.5.....pct	-.046	-.040	-.098				+.128	+.312		+.096	-.026	+.237	+.147	+.076								
Micronaire.....reading	+.562	+.263	+.330		+1.28			+.406		-.187	-.373	-.643	-.697	-.682								
Fiber strength:																						
Zero gage.....Mpsi	370	-.029	-1.03		+.312		+.406	+.077		+.077	-.521	-.212	-.323	-.448								
1/8" gage.....grams/tex	-.340	+.155	+.173		+.096		-.187	+.077		-.037	-.037	+.256	+.274	+.148								
Elongation (1/8").....pct	-.291	-.014	+.015		-.026		-.373	-.521		-.037	-.037	+.274	+.313	+.298								
Shirley Analyzer:																						
Visible waste.....pct	-.774	-.159	-.292		+.237		-.643	-.212		+.256	+.274	-.212	-.323	-.448								
Total waste.....pct	-.836	-.189	-.287		+.147		-.697	-.323		+.283	+.313	+.270	+.970	+.904								
Color of raw stock:																						
Grayness.....No.	-.888	-.247	-.213		+.060		-.438	-.212		+.408	+.185	+.717	+.793	+.787								
Yellowness.....No.	-.673	-.320	-.420		+.184		-.586	+.120		+.442	+.124	+.705	+.712	+.660								
Composite.....index	+.924	+.268	+.228		-.034		+.459	+.261		-.403	-.227	-.712	-.787	-.803								
Picker & card waste.....pct	-.835	-.280	-.382		+.076		-.682	-.448		+.148	+.298	+.854	+.904	+.369								
Spinning Potential.....No.	+.184	+.669	+.753		+.034		+.234	+.138		+.311	+.045	-.225	-.266	-.369								
<b>Yarn skein strength:</b>																						
8s (74 tex).....pounds	-.229	+.263	+.092		+.363		-.306	+.244		+.480	+0.008	+.416	+.344	+.181								
22s (27 tex).....pounds	-.111	+.350	+.266		+.367		-.136	+.372		+.522	-.080	+.251	+.171	+.001								
Yarn elongation:																						
8s (74 tex).....pct	-.363	+.040	-.026		-.087		-.623	+.616		+.065	+.654	+.391	+.448	+.456								
22s (27 tex).....pct	-.445	+.118	+.012		-.049		-.680	-.643		+.076	+.653	+.516	+.548	+.545								
Yarn Appearance:																						
8s (74 tex).....index	+.530	+.127	+.083		+.153		+.677	+.481		-.105	-.413	-.552	-.616	-.628								
22s (27 tex).....index	+.527	+.189	+.285		+.109		+.602	+.400		-.123	-.466	-.560	-.595	-.612								
Yarn imperfections:																						
8s (74 tex).....No.	-.691	-.223	-.311		-.006		-.780	-.467		+.170	+.527	+.756	+.798	+.820								
22s (27 tex).....No.	-.696	-.232	-.325		-.032		-.770	-.511		+.170	+.562	+.771	+.814	+.824								
Color - 22s gray yarn:																						
Reflectance.....Rd	+.834	+.394	+.382		-.157		-.542	+.124		-.381	-.158	-.708	-.768	-.788								
Yellowness.....%b	-.543	-.303	-.437		+.244		-.629	+.227		+.346	+.083	+.640	+.610	+.511								
Composite.....index	+.820	+.358	+.293		-.064		+.387	+.262		-.305	-.153	-.609	-.698	-.763								
Color-22s bleached yarn:																						
Reflectance.....Rd	-.033	-.096	-.251		+.104		-.342	+.251		+.054	+.068	+.227	+.127	+.053								
Yellowness.....%b	-.660	-.131	+.013		-.062		-.446	-.305		+.330	+.345	+.551	+.642	+.617								
Composite.....index	+.291	-.016	-.218		+.108		-.054	+.342		-.123	-.128	-.087	-.297	-.247								
Color - 22s dyed yarn:																						
Reflectance.....Rd	+.189	-.012	+.224		-.103		+.431	+.132		-.122	-.067	-.385	-.341	-.340								
Blueness.....%b	+.361	+.249	-.016		+.184		+.168	+.241		-.098	-.096	-.164	-.266	-.278								
Composite.....index	+.157	+.180	-.115		+.155		-.083	+.099		-.002	-.041	+.061	-.025	-.030								

Item	Yarn strength			Yarn elongation			Yarn appearance			Yarn imprfctns			Color - 22s gray yarn				Color-22s bleached yarn				Color - 22s dyed yarn			
	Coarse 8s	Fine 22s	Lbs.	Pct. 8s	Pct. 22s	Fine 22s	Coarse 8s	Index	Fine 22s	Coarse 8s	Fine 22s	No.	Reflect- ance	Yellow- ness	Com- posite	Rd	Reflect- ance	Yellow- ness	Com- posite	Index	Reflect- ance	Blue- ness	Com- posite	Index
<b>Sample Distribution:</b>																								
Mean.....	307.8	93.9	-111	-363	-1445																			
Standard deviation(±)....	15.6	5.0	+350	+0.40	+1.18																			
Correlation Coef. for																								
<b>Classification:</b>																								
Grade.....	-229	-111																						
Staple.....	+263	+350																						
Fiber length:																								
2.5% span.....	+092	+266		-026	+012																			
50/2.5.....	+363	+367		-087	-049																			
Micronaire.....	-306	-136		-623	-680																			
<b>Fiber strength:</b>																								
Zero gage.....	+244	+372		+616	-643																			
1/8" gage.....	+480	+522		+065	+076																			
Elongation (1/8").....	+008	-080		+654	+653																			
<b>Shirley Analyzer:</b>																								
Visible waste.....	+416	+251		+391	+516																			
Total waste.....	+344	+171		+448	+548																			
<b>Color or raw stock:</b>																								
Grayness.....	+152	+076		+193	+244																			
Yellowness.....	+405	+340		+188	+270																			
Composite.....	-145	-073		-231	-284																			
<b>Picker &amp; card waste.....</b>																								
	+181	+001		+456	+545																			
<b>Spinning Potential.....</b>																								
	+462	+604		-064	-026																			
<b>Yarn skein strength:</b>																								
8s (74 tex).....		+928		+184	+239																			
22s (27 tex).....				-006	+080																			
<b>Yarn elongation:</b>																								
8s (74 tex).....	+184	-006			+822																			
22s (27 tex).....	+239	+080																						
<b>Yarn appearance:</b>																								
8s (74 tex).....	-165	-020		-556	-670																			
22s (27 tex).....	-096	+063		-561	-670																			
<b>Yarn imperfections:</b>																								
8s (74 tex).....	+276	+095		+606	+698																			
22s (27 tex).....	+193	-002		+655	+737																			
<b>Color - 22s gray yarn:</b>																								
Reflectance.....	-235	-152		-203	-269																			
Yellowness.....	+420	+420		+194	+309																			
Composite.....	-047	+028		-161	-196																			
<b>Color-22s bleached yarn:</b>																								
Reflectance.....	+331	+286		+123	+246																			
Yellowness.....	+085	+046		+302	+316																			
Composite.....	+219	+197		-062	+032																			
<b>Color - 22s dyed Yarn:</b>																								
Reflectance.....	-416	-258		-272	-334																			
Blueness.....	+184	+158		-054	-091																			
Composite.....	+309	+214		+094	+085																			



Table 11.--Continued

Item	Yarn strength			Yarn elongation			Yarn appearance			Yarn imprfctns			Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 22s	Fine 50s		Coarse 22s	Fine 50s		Coarse 22s	Fine 50s		Coarse 22s	Fine 50s		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
	Lbs.	Lbs.	Pct.	Pct.	Pct.	Index	Index	Index	No.	No.	No.	Rd.	Rd.	tb	Index	Rd	tb	Index	Rd	tb	Index
Sample Distribution:																					
Mean.....	103.8	37.2	6.2	4.7		111.4	86.3		19.7	15.0		68.1	10.6	91.1	84.1	3.2	102.4	27.4	26.6	105.6	
Standard deviation (+)...	9.8	5.7	.6	.5		12.9	11.5		9.3	7.6		2.7	.7	6.0	1.3	.5	4.2	1.1	.9	5.6	
Correlation Coef. for:																					
Classification:																					
Grade.....	+336	+356	+082	+228		+294	+249		-255	-252		+674	+327	+679	+478	+324	+528	+502	+561	+571	
Staple.....	+665	+639	+132	+248		+109	+149		-289	+328		+331	-160	+205	+162	+436	+316	-239	+304	+299	
Fiber length:																					
2-5% span.....	+607	+606	+271	+336		+064	+058		-163	-194		+273	-198	+121	+203	+404	+304	+138	+255	+233	
50/2.5.....	+394	+356	+169	+018		+399	+509		-418	-485		+118	+141	+140	+073	-100	+123	+315	+309	+332	
Micronaire.....	+063	+023	+378	+319		+452	+458		-622	-652		+164	-011	+134	+011	-226	+116	-136	+289	+242	
Fiber strength:																					
Zero gage.....	+630	+567	+468	+273		+366	+417		-345	-363		+252	+040	+239	-092	-173	+028	-176	+123	+147	
1/8" gage.....	+852	+819	+032	+165		+211	+244		-199	-255		+369	-019	+298	+056	-364	+210	-291	+222	+266	
Elongation (1/8")...	+084	+101	+696	+587		+292	+367		+081	+075		+081	-097	+013	+211	-094	+196	-074	+193	+154	
Shirley Analyzer:																					
Visible waste.....	+068	+061	+080	+080		+153	+035		+350	+335		-163	+088	-090	-080	+147	-124	+034	-103	-080	
Total waste.....	+152	+114	+036	+036		+090	+005		+415	+399		-212	+025	-152	-167	+186	-208	+125	-227	-203	
Color of raw stock:																					
Grayness.....	+405	+391	+286	+383		+036	+027		+148	+122		-796	-273	-744	-489	+441	-574	+520	-578	-598	
Yellowness.....	+124	+092	+108	+150		+021	+062		+151	+143		+007	+724	+266	+307	+357	+069	-321	+238	+289	
Composite.....	+393	+385	+329	+417		+004	+006		-121	-099		+791	+354	+777	+518	-386	+587	-536	+604	+616	
Picker & card waste..	+293	+284	+003	+086		+342	+248		+458	+459		-301	+017	-233	-230	+211	-266	+190	-220	-226	
Spinning Potential....	+808	+766	+376	+459		+007	+022		-282	-309		+263	+002	+204	+182	-262	+267	-328	+336	+356	
Yarn skein strength:																					
22s (27 tex).....	+957		+188	+386		+198	+256		-238	-279		+370	+043	+326	+130	-305	+249	-376	+324	+366	
50s (12 tex).....			+187	+436		+244	+287		-131	-179		+389	+101	+354	+211	-288	+292	-402	+306	+367	
Yarn elongation:																					
22s (27 tex).....	+188	+187	+840	+840		+391	-380		+192	+208		+154	+161	+167	+390	-061	+318	-225	+319	+300	
50s (12 tex).....	+386	+436	+840	-391		-204	-176		+199	+189		+301	+261	+328	+490	-129	+429	-385	+427	+438	
Yarn Appearance:																					
22s (27 tex).....	+198	+244	+391	+204		+827			-420	-490		+238	+040	+242	+064	-151	+136	-130	+080	+104	
50s (12 tex).....	+256	+287	+380	-176		+827			-420	-468		+204	+101	+229	+057	-112	+114	-187	+147	+175	
Yarn imperfections:																					
22s (27 tex).....	+238	+131	+192	+199		+420	+420		+930	+930		-116	+202	-009	+032	-193	-062	+026	-182	-132	
50s (12 tex).....	+279	+179	+208	+189		+490	+468		+930	-123		-123	+211	-014	+039	+208	-065	+035	-181	-135	
Color - 22s gray yarn:																					
Reflectance.....	+370	+389	+154	+301		+238	+204		-116	-123		+302	+302	+923	+569	-492	+657	-481	+605	+585	
Yellowness.....	+043	+101	+161	+261		+040	+101		+202	+211		+302	+302	+603	+509	+306	+241	-509	+390	+463	
Composite.....	+326	+354	+167	+328		+242	+229		-009	-014		+923	+603		+624	-300	+628	-589	+617	+651	
Color-22s bleached yarn:																					
Reflectance.....	+130	+211	+390	+490		+064	+057		+032	+039		+569	+509	+624	-310	+857	-706	-428	+706	+600	
Yellowness.....	+305	+288	+061	+129		+151	+112		+193	+208		-492	+306	-300	-310	-706	-706	+196	-394	-351	
Composite.....	+249	+292	+318	+429		+136	+114		-062	-065		+657	+241	+628	+857	-706	-443	+685	+636		
Color - 22s dyed yarn:																					
Reflectance.....	+376	+402	+225	+385		+130	+187		+026	+035		-481	-509	-589	+428	+196	-443	-712	-880	-880	
Blueness.....	+324	+306	+319	+427		+080	+147		+181	+605		+617	+390	+617	+706	-394	+685	-712	+961	+961	
Composite.....	+366	+367	+300	+438		+104	+175		-132	-135		+585	+463	+651	+600	+351	+636	-880	+961		

Table 12.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 38 long staple samples, collected at triweekly intervals from selected gin points, crop of 1972

Item	Grade	Staple	Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential	
			2.5% span	50/2.5 unif.		Rdg.	Mpsi		G/tex	Pct.	Visible waste	Total waste	Gray- ness			Yellow- ness
Sample Distribution: Mean..... Standard deviation (+)..... Correlation Coef. for:	Index	32d in.	In.	Pct.				Pct.	Pct.	Pct.	No.	No.	Index	Pct.	No.	
	91.0	35.7	1.14	43.7	4.03	87.6	24.4	6.69	2.31	3.25	2.3	2.9	96.8	8.05	76.0	
	5.0	1.2	.04	1.6	.50	4.0	1.1	.58	.92	.95	.9	.6	4.6	1.00	11.07	
Classification: Grade.....index Staple.....32d inches Fiber length: 2.5% span.....inches 50/2.5.....pct Micronaire.....reading Fiber strength: Zero gage.....Mpsi 1/8" gage.....grams/tex Elongation (1/8").....pct Shirley Analyzer: Visible waste.....pct Total waste.....pct Color of raw stock: Grayness.....No. Yellowness.....No. Composite.....index Picker & card waste.....pct Spinning Potential.....No.	+562	+562	+373	+319	-320	+522	+562	-349	-800	-804	-729	+048	+725	-818	+554	
			+770	+315	-497	+600	+586	-373	-298	-308	-656	-301	+701	-438	+812	
	+373	+770	+248	+248	-358	+346	+362	+379	-105	-129	-593	-209	+619	-346	+843	
	+319	+315	+248	+346	-358	+346	+362	+379	-105	-129	-593	-209	+619	-346	+843	
	-320	-497	-358	+346	-358	+346	+362	+379	-105	-129	-593	-209	+619	-346	+843	
	+522	+600	+362	+033	-285	+488	+488	-332	-403	-425	-467	-101	-532	-426	+463	
	+562	+586	+379	+330	-287	+488	+488	-332	-407	-399	-321	-022	-403	-448	+468	
	-349	-373	-085	-185	+430	-332	-570	+316	+399	+321	+343	+172	-185	+250	+249	
	-800	-298	-105	-175	+318	-403	-407	+316	+957	+957	+516	-034	-501	+818	-289	
	-804	-308	-129	-243	+262	-425	-399	+273			+558	-076	-555	+853	-303	
	-729	-656	-593	-179	+475	-467	-321	+143	+516	+558	+104	+104	-949	+619	-702	
	+048	-301	-209	+116	+397	-101	-022	+172	-034	-076	+104	-062	-062	-115	-104	
	+725	+701	+619	+253	-451	-532	+403	-185	-501	-555	-949	-062	-501	-652	+749	
	-818	-438	-346	-344	+237	-426	-448	+250	+818	+853	+619	-115	-115	-652	-487	
	+554	+812	+843	+132	-597	+463	+468	-249	-289	-303	-702	-104	-104	+749	-487	
	Yarn skein strength: 22s (27 tex).....pounds 50s (12 tex).....pounds	+598	+871	+838	+214	-543	+590	+558	-249	-319	-360	-736	-114	+807	-570	+904
		+531	+815	+811	+259	-549	+472	+426	-222	-232	-275	-693	-210	+739	-436	+912
	Yarn elongation: 22s (27 tex).....pct 50s (12 tex).....pct	-182	+269	+512	+180	-062	-013	-055	+403	-011	-137	-534	+183	+564	-325	+515
		+226	+526	+767	+118	-280	+109	+151	+309	+029	-027	-923	+024	+576	-297	+730
	Yarn Appearance: 22s (27 tex).....index 50s (12 tex).....index	-304	-521	-538	+182	+554	-328	-263	+040	+118	+133	+404	+279	-366	+247	-634
-264		-483	-372	+291	+675	-401	-389	+166	+166	+127	+402	+287	-336	+112	-500	
Yarn imperfections: 22s (27 tex).....No. 50s (12 tex).....No.	+170	+158	+262	+123	-024	+223	+065	-108	-109	-117	+001	+117	+000	-280	+295	
	+176	+322	+340	+122	-239	+315	+368	-240	-216	-213	-144	+103	+182	-219	+405	
Color - 22s gray yarn: Reflectance.....Rd Yellowness.....°b Composite.....index	+580	+674	+556	+107	-530	+459	+378	-186	-402	-458	-862	-186	+919	-483	+720	
	+283	-029	+019	+322	+296	+110	+118	-018	-151	-253	-138	+810	+214	-348	+137	
Color--22s bleached yarn: Reflectance.....Rd Yellowness.....°b Composite.....index	+635	+622	+511	+199	-292	+474	+400	-188	-422	-503	-835	+111	+913	-565	+706	
	+260	+318	+186	+118	-108	+295	+199	+046	-266	-403	-416	+169	+481	-359	+311	
Color - 22s dyed yarn: Reflectance.....Rd Blueness.....°b Composite.....index	-197	-575	-297	+102	+591	-329	-362	+367	+250	+239	+403	+411	-424	+155	+448	
	-256	+503	+268	+002	-377	+371	+311	-162	-286	-361	-475	-120	+522	-295	+448	
Color - 22s dyed yarn: Reflectance.....Rd Blueness.....°b Composite.....index	-285	-448	-591	-214	-067	-230	-226	-099	-011	+033	+355	-425	-399	+277	-579	
	+058	+358	+380	+177	+236	+220	+175	+227	+077	-010	-224	+406	+307	-158	+318	
Color - 22s dyed yarn: Reflectance.....Rd Blueness.....°b Composite.....index	+177	+428	+501	+218	+183	+251	+210	+184	+038	-038	-315	+447	+384	-240	+456	

Table 12.---Continued

Item	Yarn strength			Yarn elongation			Yarn appearance			Yarn imprftns			Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 22s	Fine 50s	Lbs.	Coarse 22s	Fine 50s	Pct.	Coarse 22s	Fine 50s	Index	Coarse 22s	Fine 50s	No.	Coarse 22s	Reflect- ance	Index	Coarse 22s	Reflect- ance	Index	Coarse 22s	Reflect- ance	Index
Sample Distribution:																					
Mean.....	115.3	43.1	43.1	6.2	5.0	5.0	97.4	77.1	77.1	24.3	16.4	16.4	68.2	84.2	101.8	84.2	101.8	101.8	26.5	27.3	105.2
Standard deviation (+)...	11.8	7.8	7.8	.3	.4	.4	10.3	9.8	9.8	11.1	5.9	5.9	2.1	1.1	3.9	1.1	3.9	3.9	.9	1.1	5.4
Correlation Coef. for:																					
Classification:																					
Grade.....	+598	+531	+531	-182	+226	+226	-304	-264	-264	+170	+176	+176	+580	+260	-256	+260	-256	-256	+058	-285	+177
Staple.....	+871	+815	+815	+269	+526	+526	-521	-483	-483	+158	+322	+322	+674	+318	+503	+318	+503	+503	+358	-1448	+428
Fiber length:																					
2.5% span.....	+838	+811	+811	+512	+767	+767	-538	-372	-372	+262	+340	+340	+556	+186	+268	+186	+268	+268	+380	-591	+501
50/2.5.....	+214	+259	+259	+180	+118	+118	+182	+291	+291	+123	+122	+122	+107	+118	+002	+118	+102	+102	+177	-214	+218
Micronaire.....	-543	-549	-549	-062	-280	-280	+554	+675	+675	-024	-239	-239	-530	-108	-377	-108	+591	-377	+236	-067	+183
Fiber strength:																					
Zero gage.....	+590	+472	+472	-013	+109	+109	-328	-401	-401	+223	+315	+315	+459	+295	+371	+295	-329	+371	+220	-230	+251
1/8" gage.....	+558	+426	+426	-055	+151	+151	-263	-389	-389	+065	+368	+368	+378	+199	+311	+199	-362	+311	+175	-226	+210
Elongation (1/8")...pt	-249	-222	-222	+403	+309	+309	+040	+166	+166	-108	-240	-240	-186	+046	-162	+046	+367	-162	+227	-099	+184
Shirley Analyzer:																					
Visible waste.....	-319	-232	-232	-011	+029	+029	+118	+166	+166	-109	-216	-216	-402	-266	-286	-266	+250	-286	+077	-011	+038
Total waste.....	-360	-275	-275	-137	-027	-027	+133	+127	+127	-117	-213	-213	-458	-403	-361	-403	+239	-361	-010	+033	-038
Color of raw stock:																					
Grayness.....	-736	-693	-693	-534	-523	-523	+404	+402	+402	+001	-144	-144	-862	-416	-475	-416	+403	-475	-224	+355	-315
Yellowness.....	-114	-210	-210	+183	+024	+024	-114	+279	+279	+117	+103	+103	-186	+169	-120	+169	+411	-120	+406	-425	+147
Composite.....	+807	+739	+739	+564	+576	+576	-366	-356	-356	+000	+182	+182	+919	+481	+522	+481	-424	+522	+307	-399	+384
Picker & card waste...pt	-570	-436	-436	-325	-297	-297	+247	+112	+112	-280	-219	-219	-483	-359	-295	-359	+155	-295	-158	+277	-240
Spinning Potential...No.	+904	+912	+912	+515	+730	+730	-634	-500	-500	+295	+405	+405	+720	+311	+428	+311	-440	+428	+318	-579	+456
Yarn skein strength:																					
22s (27 tex).....	+888	+803	+803	+504	+732	+732	-565	-473	-473	+259	+377	+377	+719	+343	+414	+343	-386	+414	+381	-576	+500
50s (12 tex).....																					
Yarn elongation:																					
22s (27 tex).....	+504	+515	+515	+781	+781	+781	-211	-007	-007	-049	-092	-092	+507	+466	+321	+466	-060	+321	+505	-502	+543
50s (12 tex).....	+732	+715	+715				-465	-226	-226	+147	+185	+185	+513	+357	+306	+357	-159	+306	+508	-657	+606
Yarn appearance:																					
22s (27 tex).....	-565	-617	-617	-211	-465	-465	+748	+748	+748	-318	-409	-409	-459	-243	-388	-243	+409	-388	-058	+176	-112
50s (12 tex).....	-473	-453	-453	-007	-226	-226	-409	-436	-436	-059	-436	-436	-464	-179	-348	-179	+500	-348	+016	+001	+014
Yarn imperfections:																					
22s (27 tex).....	+259	+200	+200	-049	+147	+147	-318	-059	-059	+622	+622	+622	+110	+086	-086	+086	+080	-086	-015	-311	+141
50s (12 tex).....	+377	+315	+315	-092	+185	+185	-409	-436	-436	+622	+622	+622	+161	+076	-126	+076	+126	-126	+033	-249	+137
Color - 22s gray yarn:																					
Reflectance.....	+719	+705	+705	+507	+513	+513	-459	-464	-464	-110	+161	+161	+069	+565	+657	+565	-580	+657	+279	-243	+289
Yellowness.....	+154	+146	+146	+339	+158	+158	+113	+261	+261	+091	+135	+135	+069	+305	-018	+305	+357	-018	+410	-476	+476
Composite.....	+723	+699	+699	+558	+524	+524	-388	-348	-348	-070	+218	+218	+935	+605	+590	+605	-410	+590	+402	-404	+442
Color-22s bleached yarn:																					
Reflectance.....	+343	+307	+307	+466	+357	+357	-243	-179	-179	-086	+076	+076	+565	+472	+873	+472	-472	+873	+584	-230	+470
Yellowness.....	+386	+384	+384	-060	-159	-159	+409	+500	+500	-080	-126	-126	-580	-472	-837	-472	-580	-837	-224	-001	+141
Composite.....	+414	+388	+388	+321	+306	+306	-372	-378	-378	-086	+109	+109	+657	+873	-837	+873	-837	-837	+484	-148	+372
Color - 22s dyed yarn:																					
Reflectance.....	-576	-478	-478	-502	-657	-657	+176	+001	+001	-311	-249	-249	-243	-230	-148	-230	-472	-148	-736	-905	+905
Blueless.....	+381	+258	+258	+505	+508	+508	-058	+016	+016	-015	+033	+033	+279	+584	+470	+584	-224	+470	-736	-905	+952
Composite.....	+500	+375	+375	+543	+606	+606	-112	-014	-014	+141	+137	+137	+289	+470	+372	+470	-141	+372	+952	-905	+952

Table 12a--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on combed yarns from 38 long staple samples from selected gin points, crop of 1972

Statistical Items	Picker & Card Waste	Comber waste	Combed Yarn Values							
			Yarn strength		Yarn elongation		Yarn appearance		Yarn imperfections	
			22s	50s	22s	50s	22s	50s	22s	50s
	Pct.	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
<b>Sample Distribution:</b>										
Mean.....	8.05	16.34	132.6	49.6	6.6	5.3	109.5	88.9	10.9	8.6
Standard deviation (±).....	1.00	1.71	12.3	5.9	.3	.4	11.6	11.1	5.0	3.8
<b>Correlation Coeff. for</b>										
<b>Classification:</b>										
Grade.....index	-.818	-.339	+.613	+.624	+.068	+.346	-.452	-.453	+.035	+.185
Staple.....32d inches	-.438	-.568	+.854	+.878	+.240	+.517	-.612	-.612	+.240	+.343
<b>Fiber length:</b>										
2.5% span.....inches	-.346	-.756	+.773	+.843	+.377	+.670	-.532	-.372	+.262	+.340
50/2.5 unif.....pct	-.344	-.426	+.159	+.192	+.136	+.130	+.095	+.090	-.096	-.096
<b>Micronaire.....reading</b>										
Fiber strength:	+.237	+.094	-.552	-.536	-.070	-.298	+.636	+.746	-.268	-.409
<b>Fiber strength:</b>										
Zero gage.....Mpsi	-.426	-.139	+.684	+.627	-.064	+.172	-.499	-.460	+.221	+.382
1/8" gage.....grams/text	-.448	-.257	+.557	+.564	-.092	+.564	-.092	+.188	-.584	-.595
Elongation (1/8").....pct	+.250	-.026	-.254	-.257	+.430	+.320	+.371	+.345	-.050	-.305
<b>Shirley Analyzer:</b>										
Visible waste.....pct	+.818	+.049	-.314	-.323	+.166	-.035	+.408	+.438	-.023	-.178
Total waste.....pct	+.853	+.117	-.349	-.347	+.092	-.120	+.416	+.417	+.009	-.160
<b>Color of raw stock:</b>										
Grayness.....No.	+.619	+.451	-.732	-.743	-.367	-.616	-.478	+.463	-.043	-.138
Yellowness.....No.	-.115	+.138	-.125	-.128	+.128	-.001	+.116	+.286	+.125	+.040
Composite.....index	-.652	-.475	+.801	+.811	+.410	+.650	-.472	-.470	+.120	+.182
<b>Picker &amp; card waste.....pct</b>										
Picker & card waste.....pct	-.320	-.320	-.531	-.538	-.110	-.374	+.433	+.407	-.056	-.129
<b>Spinning Potential.....No.</b>										
Spinning Potential.....No.	-.486	-.659	+.875	+.908	+.414	+.704	-.670	-.594	+.355	+.412
<b>Comber waste.....pct</b>										
Comber waste.....pct	+.320	-.591	-.591	-.640	-.346	-.615	+.220	+.088	+.008	+.035
<b>Combed yarn strength:</b>										
22s (27 tex).....pounds	+.531	-.591	+.974	+.974	+.358	+.687	-.633	-.650	+.338	+.405
50s (12 tex).....pounds	+.538	-.640	+.974	+.974	+.334	+.697	-.646	-.642	+.334	+.391
<b>Combed yarn elongation:</b>										
22s (27 tex).....pct	-.110	-.346	+.358	+.334	+.728	+.728	-.034	-.088	+.034	-.084
50s (12 tex).....pct	-.374	-.615	+.687	+.697	+.034	+.728	-.353	-.360	+.191	+.068
<b>Combed yarn appearance:</b>										
22s (27 tex).....index	+.433	+.220	-.633	-.646	+.034	-.353	+.813	+.813	-.437	-.667
50s (12 tex).....index	+.407	+.088	-.650	-.642	-.088	-.360	+.813	+.813	-.428	-.609
<b>Combed yarn imperfections:</b>										
22s (27 tex).....No.	-.056	+.008	+.338	+.334	+.034	+.191	-.437	+.428	+.841	+.841
50s (12 tex).....No.	-.129	+.035	+.405	+.391	-.084	+.068	-.667	-.609	+.841	+.841

Table 13.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 57 short staple samples, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables											
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential		Color of 22s yarn	
	Pct.	Lbs.	Coarse 8s	Fine 22s	Pct.	Coarse 8s	Fine 22s	Index	No.	Index	Gray yarn	Dyed yarn
Mean Values for:												
Dependent variable.....	6.8	308			6.4	121	116	107	46	100		
Grade index.....	89	89	89	89	89	89	89	89	89	89		
Staple length.....	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3	31.3		
Micronaire.....	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		
Fiber strength (0 gage).....	79	79	79	79	79	79	79	79	79	79		
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45		
Standard Deviations (±) for:												
Dependent variable.....	1.27	15.6			.51	6.9	10.7	12.5	4.3	4.6		
Grade index.....	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3		
Staple length.....	.91	.91	.91	.91	.91	.91	.91	.91	.91	.91		
Micronaire.....	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68		
Fiber strength (0 gage).....	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1		
Uniformity ratio.....	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		
Simple Correlation Coef. for:												
Grade index.....	-.83	-.23	-.36	-.45	+.53	+.53	+.53	-.70	+.18	+.29		
Staple length.....	-.28	+.26	+.04	+.12	+.13	+.13	+.19	-.22	+.67	+.36		
Micronaire.....	-.68	-.31	+.62	+.68	+.68	+.68	+.68	-.77	+.23	-.02		
Fiber strength (0 gage).....	-.45	+.24	-.62	-.64	+.48	+.48	+.40	-.47	+.14	+.26		
Uniformity ratio.....	+.08	+.36	-.09	-.05	+.15	+.15	+.11	-.03	+.03	+.11		
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRADE INDEX, STAPLE LENGTH												
Multiple Cor. Coef. for:	.84	.39	.38	.49	.53	.53	.53	.70	.67	.84	.30	.22
Grade index.....	-.83	-.30	-.38	-.48	+.52	+.52	+.51	-.68	+.07	+.82	.30	.13
Staple length.....	-.22	+.32	+.12	+.23	+.03	+.03	+.10	-.14	+.66	+.35	-.08	.15
Beta Coefficients for:												
Grade index.....	-.81	-.29*	-.39	-.49	+.52	+.52	+.51	-.67	+.06*	+.78	+.31*	+.13*
Staple length.....	-.12*	+.32*	+.12*	+.21*	+.03*	+.03*	+.09*	-.09*	+.66	+.21	-.08*	+.16*
Regression Equation:												
Constant (a).....	+.24.68	+.191.98	+.7.96	+.5.65	+.71.17	+.16.79	+.282.51	+.174.23	-.55.71	-.34.01	+.94.57	+.76.59
Regression Coef. for:												
Grade index.....	-.14	-.62	-.03	-.03	+.74	+.50	+.74	-.1.15	+.03	+.80	+.19	+.08
Staple length.....	-.17	+.5.46	+.08	+.12	+.19	+.19	+.1.05	-.1.37	+.3.14	+.1.71	+.38	+.76
Standard error (±).....	.68	14.34	.59	.44	5.88	9.02	8.86		3.22	4.05	4.39	4.32
DEPENDENT VARIABLE with												
GRADE INDEX, STAPLE LENGTH,												
MICRONAIRE												
Multiple Cor. Coef. for:	.88	.48	.66	.75	.70	.64	.83	.67	.39	.85	.39	.33
Partial Cor. Coef. for:												
Grade index.....	-.75	-.10	-.04	-.14	+.25	+.25	+.28	-.50	+.04	+.81	+.39	+.24
Staple length.....	-.15	+.38	+.27	+.43	+.02	+.02	+.02	-.02	+.05	+.39	+.20	+.20
Micronaire.....	-.44	-.30	-.58	-.65	+.54	+.54	+.43	-.63	+.05	-.24	-.27	-.25
Beta Coefficients for:												
Grade index.....	-.65	-.11*	-.03*	-.12*	+.22*	+.22*	+.27*	-.38	+.03*	+.86	+.47	+.28*
Staple length.....	-.07*	+.37	+.22*	+.32	+.07*	+.07*	+.02*	-.01*	+.65	+.23	-.03*	+.20*
Micronaire.....	-.29	-.34*	-.66	-.70	+.57	+.57	+.44	-.55	+.04*	-.16*	-.31*	-.30*
Regression Equation:												
Constant (a).....	+.22.45	+.160.29	+.5.44	+.3.54	+.94.55	+.44.85	+.212.14	+.133.48	-.54.56	-.41.13	+.86.04	+.68.79
Regression Coef. for:												
Grade index.....	-.11	-.23	-.00	-.01	+.21	+.21	+.40	-.65	+.02	+.89	+.30	+.17
Staple length.....	-.10	+.6.40	+.16	+.18	+.50	+.50	+.22	-.17	+.3.11	+.1.92	-.13	+.99
Micronaire.....	-.55	-.7.89	-.63	-.52	+.5.82	+.5.82	+.69	-.10.15	+.29	-.1.77	-.2.12	-.1.94
Standard Error (±).....	.61	13.66	.48	.33	4.93	8.16	6.80		3.22	3.93	3.24	4.10

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Statistically insignificant

Statistically insignificant

Table 14.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 57 short staple samples, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections		
	Coarse 8s	Fine 22s	Pct. lbs.	Coarse 8s	Fine 22s	Pct. lbs.	Coarse 8s	Fine 22s	Index 116	No. 47	Coarse 8s	Fine 22s
Picker & card waste												
Pct.	308	94	6.8	121	116	121	116	116	116	116	116	116
Mean Values for:												
Dependent variable.....	308	94	6.4	121	116	121	116	116	116	116	116	116
Grayness.....	3	3	3	3	3	3	3	3	3	3	3	3
Yellowness.....	4	4	4	4	4	4	4	4	4	4	4	4
Nonlint content (S.A.).....	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
2.5% span length.....	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97
Micronaire.....	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Standard Deviation (±) for:												
Dependent variable.....	15.6	5.0	.51	6.9	10.7	6.9	10.7	10.7	10.7	10.7	10.7	10.7
Grayness.....	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Yellowness.....	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Nonlint content (S.A.).....	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68
Simple Correlation Coef. for:												
Grayness.....	.79	.08	.24	.46	.49	.46	.49	.49	.49	.49	.49	.49
Yellowness.....	.66	.34	.27	.41	.50	.41	.50	.50	.50	.50	.50	.50
Nonlint content (S.A.).....	.90	.17	.45	.62	.60	.62	.60	.60	.60	.60	.60	.60
2.5% span length.....	.38	.09	.01	.08	.28	.08	.28	.28	.28	.28	.28	.28
Micronaire.....	.68	.14	.68	.68	.60	.68	.60	.60	.60	.60	.60	.60
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS												
Multiple Cor. Coef. ....	.79	.45	.28	.47	.53	.47	.53	.53	.53	.53	.53	.53
Partial Cor. Coef. for:												
Grayness.....	.58	.31	.06	.25	.19	.25	.19	.19	.19	.19	.19	.19
Yellowness.....	.14	.44	.13	.10	.22	.10	.22	.22	.22	.22	.22	.22
Beta Coefficients for:												
Grayness.....	.69	.46*	.08*	.33*	.25*	.33*	.25*	.25*	.25*	.25*	.25*	.25*
Yellowness.....	.13*	.69	.20*	.14*	.31*	.14*	.31*	.31*	.31*	.31*	.31*	.31*
Regression Equation:												
Constant (a).....	.4.02	.88.30	.5.91	.130.59	.133.37	.130.59	.133.37	.133.37	.133.37	.133.37	.133.37	.133.37
Regression Coef. for:												
Grayness.....	.66	.4.64	.06	.1.84	.2.03	.1.84	.2.03	.2.03	.2.03	.2.03	.2.03	.2.03
Yellowness.....	.13	.8.64	.05	.74	.2.57	.74	.2.57	.2.57	.2.57	.2.57	.2.57	.2.57
Standard Error (±).....	.78	13.67	.49	6.13	9.06	6.13	9.06	9.06	9.06	9.06	9.06	9.06
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS,												
NONLINT (S.A.)												
Multiple Cor. Coef. ....	.91	.45	.62	.62	.61	.62	.61	.61	.61	.61	.61	.61
Partial Cor. Coef. for:												
Grayness.....	.31	.30	.21	.03	.02	.03	.02	.02	.02	.02	.02	.02
Yellowness.....	.11	.42	.08	.03	.13	.03	.13	.13	.13	.13	.13	.13
Nonlint (S.A.).....	.75	.07	.49	.46	.35	.46	.35	.35	.35	.35	.35	.35
Beta Coefficients for:												
Grayness.....	.25*	.52*	.45*	.04*	.04*	.04*	.04*	.04*	.04*	.04*	.04*	.04*
Yellowness.....	.07*	.67	.12*	.04*	.17*	.04*	.17*	.17*	.17*	.17*	.17*	.17*
Nonlint (S.A.).....	.76	.41*	.80	.68	.50*	.68	.50*	.50*	.50*	.50*	.50*	.50*
Regression Equation:												
Constant (a).....	.3.46	.283.48	.88.00	.133.33	.136.48	.133.33	.136.48	.136.48	.136.48	.136.48	.136.48	.136.48
Regression Coef. for:												
Grayness.....	.24	.7.44	.17	.20	.29	.20	.29	.29	.29	.29	.29	.29
Yellowness.....	.07	.7.29	.06	.24	.1.45	.24	.1.45	.1.45	.1.45	.1.45	.1.45	.1.45
Nonlint (S.A.).....	.76	.5.03	.40	.37	.4.16	.37	.4.16	.4.16	.4.16	.4.16	.4.16	.4.16
Standard Error (±).....												
Grayness.....												
Yellowness.....												
Nonlint (S.A.).....												
Standard Error (±).....												

Table 14.---Continued

Statistical Items	Dependent Variables													
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn			Index	Index
	Pct.	Lbs.	Pct.	Pct.	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn		
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, SPAN NONLINT (S.A.), 2.5% LENGTH														
Multiple Cor. Coef. ....	.93	.65	.69	.65	.62	.61	.81	.82	.80	.91	.59	.38		
Partial Cor. Coef. for:														
Grayness.....	+.42	-.39	-.40	-.22	+.04	+.01	-.06	-.05	-.20	-.77	-.44	-.36		
Yellowness.....	-.27	+.53	+.62	-.04	-.01	-.08	+.16	+.09	+.39	+.09	+.47	+.26		
Nonlint (S.A.).....	+.76	+.35	+.15	+.60	-.47	-.34	+.58	+.63	-.24	+.06	-.16	+.10		
2.5% span length.....	-.39	+.44	+.59	+.24	-.12	+.11	-.07	-.12	+.78	+.26	-.12	-.02		
Beta Coefficients for:														
Grayness.....	+.32	-.60	-.58	-.44*	+.05*	+.01*	-.07*	-.06*	-.24*	-.94	-.74	-.66*		
Yellowness.....	-.18*	+.85	+.102	+.07*	-.02*	-.12*	+.17*	+.09*	+.45	+.06*	+.76	+.45*		
Nonlint (S.A.).....	+.74	+.47*	+.19*	+.97	-.69	-.48*	+.71	+.77	-.25*	+.05*	-.22*	+.16*		
2.5% span length.....	-.18	+.42	+.59	+.21*	-.11*	+.10*	-.05*	-.08*	+.84	+.13*	-.11*	-.02*		
Regression Equation:														
Constant (a).....	+8.92	+121.26	+15.06	+3.00	+151.51	+111.48	+19.03	+21.00	-.37.42	+84.67	+111.53	+107.91		
Regression Coef. for:														
Grayness.....	+.31	-7.05	-2.21	-.17	+.27	+.07	-1.07	-.52	-.78	-5.34	-2.56	-2.20		
Yellowness.....	-.18	+10.29	+3.99	+.03	-.10	-.97	+.85	+.85	+1.51	+.38	+2.75	+1.55		
Nonlint (S.A.).....	+.73	+5.76	+.73	+.38	-3.75	-4.04	+11.53	+7.52	-.84	+27	-.80	+.57		
2.5% span length.....	-5.32	+149.88	+68.73	+2.44	-17.17	+23.93	-23.21	-22.69	+81.71	+22.37	-12.08	-2.02		
Standard Error (±).....	.47	11.79	3.63	.38	5.41	8.44	12.19	7.11	2.61	3.12	3.73	4.10		
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE														
Multiple Cor. Coef. ....	.94	.65	.70	.76	.73	.66	.86	.87	.80	.91	.59	.38		
Partial Cor. Coef. for:														
Grayness.....	+.50	-.39	-.43	-.10	-.17	-.12	+.15	+.14	-.18	-.75	-.39	-.34		
Yellowness.....	-.36	+.53	+.63	-.22	+.16	+.02	+.00	-.07	+.37	+.08	+.44	+.26		
Nonlint (S.A.).....	+.63	+.33	+.22	+.33	-.15	-.11	+.31	+.39	-.21	+.04	-.17	+.10		
2.5% span length.....	-.39	+.43	+.59	+.17	-.18	+.09	-.04	-.10	+.78	+.27	-.12	-.02		
Micronaire.....	-.32	+.08	+.16	-.53	+.50	+.32	-.51	-.48	-.02	-.02	-.07	+.02		
Beta Coefficients for:														
Grayness.....	+.41	-.65	-.67*	-.13*	-.24*	-.18*	+.15*	+.15*	-.23*	-.93	-.69	-.67*		
Yellowness.....	-.25*	+.88	+.108	-.15*	+.20*	+.03*	+.00*	-.07*	+.44*	+.06*	+.73	+.46*		
Nonlint (S.A.).....	+.59	+.55*	+.33*	+.27*	-.22*	-.18*	+.34*	+.44*	-.26*	+.19*	-.29*	+.19*		
2.5% span length.....	-.17	+.41	+.58	+.24*	-.14*	+.08*	-.03*	-.06*	+.84	+.13*	-.11*	-.02*		
Micronaire.....	-.18*	+.09*	+.18*	-.62	+.59	+.39*	-.46	-.42	-.02*	-.01*	-.10*	+.03*		
Regression Equation:														
Constant (a).....	+10.61	+110.98	+8.61	+5.23	+121.91	+81.63	+88.02	+58.93	-.36.78	+85.48	+114.49	+106.95		
Regression Coef. for:														
Grayness.....	+.40	-7.59	-2.54	-.05	-1.25	-1.44	+2.41	+1.39	-.75	-5.29	-2.40	-2.25		
Yellowness.....	-.25	+10.70	+4.25	-.15	+1.08	+.22	+.04	-.66	+1.49	+.35	+2.63	+1.59		
Nonlint (S.A.).....	+.59	+6.65	+1.29	+.19	-1.18	-1.46	+5.57	+4.25	-.89	+.20	-1.05	+.65		
2.5% span length.....	-5.05	+148.23	+67.70	+2.03	-21.90	+19.17	-12.20	-16.65	+84.81	+22.50	-11.61	-2.17		
Micronaire.....	-.35	+2.12	+1.33	-.46	+6.09	+6.13	-14.15	-7.77	-.13	-.17	-.61	+.20		
Standard Error (±).....	.45	11.76	3.58	.33	4.70	7.99	10.48	6.23	2.60	3.12	3.72	4.10		

\* Statistically insignificant

Table 15.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 57 short staple samples, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables															
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn					
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	No.	Coarse 8s		Fine 22s	Gray yarn	Bleached yarn	Dyed yarn		
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Pct.	Index	Index	No.	No.	Index	Index	Index	Index	Index	Index
Mean Values for:																
Dependent variable.....	6.8	308	94	7.5	6.4	.97	121	116	47	29	.97	.97	46	91	100	107
2.5% span length.....	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97
Micronaire.....	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Fiber str. (1/8" gage).....	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage).....	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Standard Deviation (±) for:																
Dependent variable.....	1.27	15.6	5.0	.64	.51	.51	6.9	10.7	20.7	12.5	.04	.04	4.3	7.6	4.6	4.4
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68
Fiber str. (1/8" gage).....	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8
Uniformity ratio.....	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Elongation (1/8" gage).....	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57	.57
Simple Correlation Coef. for:																
2.5% span length.....	-.38	-.09	.27	-.03	.01	.01	.08	.28	-.31	-.33	-.75	-.33	.75	.29	-.22	-.12
Micronaire.....	-.68	-.31	-.14	-.62	-.08	-.08	.68	.60	-.78	-.77	.23	-.77	.23	.39	-.05	-.08
Fiber str. (1/8" gage).....	.15	.48	.52	.07	.08	.08	-.11	.12	.17	.17	.31	.17	.31	.31	-.12	-.00
Uniformity ratio.....	.08	.36	.37	-.09	-.05	-.05	.15	.11	-.01	-.03	.03	-.03	.03	-.06	.11	.15
Elongation (1/8" gage).....	.30	.01	-.08	.65	.65	.65	-.41	-.47	.53	.56	.05	.56	.05	-.15	-.13	-.04
Multiple Cor. Data for:																
DEPENDENT VARIABLE with																
2.5% SPAN LENGTH, MICRONAIRE																
Multiple Cor. Coef. ....	.70	.37	.36	.65	.72	.72	.69	.61	.78	.77	.75	.77	.75	.42	.22	.12
Partial Cor. Coef. for:																
2.5% span length.....	-.23	.22	.33	.24	.34	.34	-.20	.11	-.09	-.12	.74	-.12	.74	.19	-.21	-.09
Micronaire.....	-.64	-.36	-.25	-.65	-.72	-.72	.69	.56	-.76	-.74	-.02	-.74	-.02	.32	.02	-.05
Beta Coefficients for:																
2.5% span length.....	-.18*	.22*	.35*	.20*	.27*	.27*	-.16*	.10*	-.06*	-.08*	.76	-.08*	.76	.18*	-.22*	-.10*
Micronaire.....	-.62	-.38*	-.25*	-.69	-.77	-.77	.73	.57	-.76	-.74	-.02*	-.74	-.02*	.33*	.02*	-.05*
Regression Equation:																
Constant (a).....	+16.59	+267.25	+62.00	+7.25	+5.67	+5.67	+115.54	+56.16	+170.00	+106.73	-.28.05	+106.73	-.28.05	+45.05	+122.45	+118.33
Regression Coef. for:																
2.5% Span Length.....	-5.20	+78.10	+40.57	+2.99	+3.11	+3.11	-.25.24	+23.79	-.28.66	-.22.91	.76	-.22.91	.76	.32	-.23.89	-10.06
Micronaire.....	-1.17	-8.69	-1.86	-.65	-.57	-.57	+7.46	+8.99	-.23.27	-13.69	.11	-13.69	.11	.32	.14	-.33
Standard Error (±).....	.91	.14	.69	.49	.35	.35	5.00	8.46	12.89	7.89	2.86	7.89	2.86	6.84	4.50	4.40
DEPENDENT VARIABLE with																
2.5% SPAN LENGTH, MICRONAIRE																
FIBER STR. (1/8" GAGE)																
Multiple Cor. Coef. ....	.70	.54	.56	.66	.73	.73	.70	.61	.78	.78	.78	.78	.78	.51	.23	.12
Partial Cor. Coef. for:																
2.5% span length.....	-.23	.12	.24	.27	.37	.37	-.22	.12	-.10	-.13	.72	-.13	.72	.27	-.19	-.09
Micronaire.....	-.61	-.28	-.14	-.66	-.73	-.73	.69	.54	-.74	-.73	.05	-.73	.05	.25	.00	-.05
Fiber str. (1/8" gage)...	.09	.42	.47	.14	-.17	-.17	.09	-.04	.06	.07	.28	.07	.28	-.32	-.09	.01
Beta Coefficients for:																
2.5% span length.....	-.19*	.11*	.23*	.23*	.30*	.30*	-.17*	.11*	-.07*	-.09*	.71	-.09*	.71	.27*	-.20*	-.10*
Micronaire.....	-.60	-.26*	-.12*	-.72	-.80	-.80	.75	.56	-.75	-.73	.04*	-.73	.04*	.24*	-.05*	-.05*
Fiber str. (1/8" gage)...	.07*	.41	.46	-.11*	-.13*	-.13*	.07*	-.04*	.04*	.05*	.20*	.05*	.20*	-.31*	-.09*	.01*
Regression Equation:																
Constant (a).....	+14.83	+138.53	+15.66	+8.66	+6.95	+6.95	+106.46	+64.01	+152.49	+94.55	-.45.09	+94.55	-.45.09	+91.43	+130.70	+117.77
Regression Coef. for:																
2.5% span length.....	-5.73	+39.04	+26.50	+3.42	+3.50	+3.50	-.27.99	+26.17	-.33.97	-.26.61	.70	-.26.61	.70	.46	-.21.39	-10.23
Micronaire.....	-1.14	+6.10	-.93	-.68	-.60	-.60	.74	.84	-.22.92	-13.45	.24	-13.45	.24	.27	-.03	-.32
Fiber str. (1/8" gage)...	.11	.75	.27	-.08	-.07	-.07	.53	.46	.103	.71	.00	.71	.00	.48	.48	.48
Standard Error (±).....	.90	.12	.45	.48	.34	.34	4.93	8.45	12.87	7.87	2.70	7.87	2.70	6.48	4.48	4.03

Table 15.--Continued

Statistical Items	Dependent Variables													
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn			
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s					
Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	Index	No.	No.	Index	Index	Index	Index	
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO														
Multiple Cor. Coef.....	.72	.66	.68	.66	.74	.70	.61	.79	.78	.52	.26	.20		
Partial Cor. Coef. for:														
2.5% span length.....	-.23	+.22	+.35	+.27	+.38	-.21	+.13	-.09	-.12	+.72	+.27	-.17	-.08	
Micronaire.....	-.63	-.39	-.25	-.65	-.74	+.68	+.53	-.74	-.72	+.02	+.25	-.03	-.08	
Fiber str. (1/8" gage)...	+.06	+.39	+.45	-.14	-.20	+.08	-.05	+.04	+.06	+.26	-.31	-.10	-.02	
Uniformity ratio.....	+.19	+.45	+.45	+.05	+.15	+.05	+.07	+.13	+.08	+.13	-.05	+.10	+.16	
Beta Coefficients for:														
2.5% span length.....	-.18*	+.19*	+.31*	+.23*	+.31*	-.17*	+.11*	-.08*	-.09*	+.73	+.27*	-.19*	-.08*	
Micronaire.....	-.64	-.35	-.21*	-.73	-.82	+.74	+.55	-.77	-.74	+.02*	+.25*	-.03*	-.09*	
Fiber str. (1/8" gage)...	+.04*	+.34	+.39	-.12*	-.14*	+.06*	-.05*	+.03*	+.04*	+.18*	-.30*	-.11*	-.02*	
Uniformity ratio.....	+.14*	+.39	+.39	+.04*	+.10*	+.04*	+.06*	+.08*	+.05*	+.09*	-.04*	+.10*	+.16*	
Regression Equation:														
Constant (a).....	+8.98	-81.92	-54.19	+7.79	+5.26	+97.85	+44.22	+94.02	+73.01	-58.45	+102.09	+114.44	+93.72	
Regression Coef. for:														
2.5% span length.....	-5.27	+69.77	+36.25	+3.48	+3.58	-27.35	+27.65	-29.39	-24.95	+72.83	+45.61	-20.12	-8.38	
Micronaire.....	-1.20	-8.16	-1.58	-.69	-.62	+7.56	+8.64	-23.50	-13.66	+.11	+2.81	-.19	-.56	
Fiber str. (1/8" gage).	+.07	+6.29	+2.32	-.09	-.09	+.48	-.58	+.67	+.58	+.92	-2.65	-.58	-.11	
Uniformity ratio.....	+.14	+4.99	+1.59	+.02	+.04	+.21	+.48	+1.41	+.52	+.30	-.26	+.39	+.58	
Standard Error (±).....	.89	11.70	3.70	.48	.34	4.97	8.43	12.76	7.84	2.72	6.47	4.45	4.34	
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)														
Multiple Cor. Coef.....	.72	.67	.69	.78	.83	.71	.68	.83	.84	.78	.52	.30	.21	
Partial Cor. Coef. for:														
2.5% span length.....	-.24	+.25	+.39	+.20	+.34	-.17	+.21	-.19	-.25	+.71	+.28	-.14	-.06	
Micronaire.....	-.57	-.41	-.31	-.55	-.67	+.60	+.39	-.67	-.65	+.06	+.19	-.09	-.10	
Fiber str. (1/8" gage)...	+.08	+.37	+.42	-.06	-.12	+.04	-.13	+.13	+.17	+.27	-.32	-.13	-.03	
Uniformity ratio.....	+.18	+.46	+.47	+.01	+.12	+.07	+.10	+.10	+.04	+.12	+.11	+.12	+.16	
Elongation (1/8" gage)...	+.11	-.15	-.21	+.56	+.56	-.20	-.37	+.44	+.51	+.09	-.10	-.16	-.08	
Beta Coefficients for:														
2.5% span length.....	-.20*	+.22*	+.35	+.14*	+.22*	-.14*	+.18*	-.12*	-.16*	+.71	+.28*	-.15*	-.06*	
Micronaire.....	-.59	-.42	-.30*	-.51	-.62	+.66	+.39	-.62	-.57	+.05*	+.21*	-.11*	-.13*	
Fiber str. (1/8" gage)...	+.06*	+.32*	+.36	-.04*	-.07*	+.03*	-.10*	+.08*	+.10*	+.19*	-.31*	-.14*	-.04*	
Uniformity ratio.....	+.13*	+.40	+.40	+.01*	+.07*	+.05*	+.08*	+.06*	+.03*	+.08*	-.04*	+.12*	+.17*	
Elongation (1/8" gage)...	+.08*	-.13*	-.17	+.46	+.42	-.16*	-.33*	+.30	+.36	+.06*	-.09*	-.17*	-.09	
Regression Equation:														
Constant (a).....	+7.69	-58.28	-43.93	+4.21	+2.71	+111.40	+86.00	+18.86	+19.64	-61.59	+110.51	+123.80	+98.26	
Regression Coef. for:														
2.5% span length.....	-5.78	+79.56	+40.49	+2.08	+2.60	-22.03	+44.06	-59.00	-45.96	+71.53	+48.91	-16.44	-6.59	
Micronaire.....	-1.12	-9.58	-2.20	-.48	-.47	+6.75	+6.16	-19.04	-10.49	+.30	+2.32	-.75	-.83	
Fiber str. (1/8" gage).	+.09	+5.89	+2.14	-.03	-.04	+.25	-1.28	+1.93	+1.48	+.98	-2.79	-.74	-.19	
Uniformity ratio.....	+.14	+5.11	+1.63	+.00	+.03	+.28	+.69	+1.04	+.26	+.29	-.22	+.44	+.61	
Elongation (1/8" gage).	+.19	-3.51	-1.52	+.52	+.37	-1.98	-6.11	+11.01	+7.82	+.47	-1.23	-1.37	-.66	
Standard Error (±).....	.88	11.56	3.62	.40	.28	4.87	7.83	11.45	6.75	2.71	6.44	4.40	4.33	

\* Statistically insignificant

**Table 16.--Cotton:** Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 340 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable.....	6.1	104	37	6.2	4.7	111	86	15	64	91	102	106	
Grade index.....	90	90	90	90	90	90	90	20	15	90	90	90	
Staple length.....	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	
Micronaire.....	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	
Fiber strength (0 gage).....	84	84	84	84	84	84	84	84	84	84	84	84	
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45	
Standard Deviations (s) for:													
Dependent variable.....	.88	9.8	5.7	.55	.55	12.9	11.5	9.3	7.6	6.0	4.2	5.6	
Grade index.....	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Staple length.....	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	
Micronaire.....	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	
Fiber strength (0 gage).....	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	
Uniformity ratio.....	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
Simple Correlation Coef. for:													
Grade index.....	-.61	.34	.36	.08	.23	.29	.25	-.26	-.25	.68	.53	.57	
Staple length.....	-.35	.66	.64	.13	.25	.11	.15	-.29	-.33	.21	.32	.30	
Micronaire.....	-.34	.06	-.02	-.38	-.32	.45	.46	-.62	-.65	.13	.12	.24	
Fiber strength (0 gage).....	-.21	.63	.57	.47	.27	.37	.42	-.35	-.36	.24	.03	.15	
Uniformity ratio.....	-.18	.39	.36	.17	-.02	.40	.51	-.42	-.48	.14	.12	.33	
Multiple Cor. Data for:													
DEPENDENT VARIABLE with													
GRADE INDEX, STAPLE LENGTH													
Multiple Cor. Coef.....	.63	.68	.66	.14	.30	.30	.26	.34	.37	.68	.55	.59	
Partial Cor. Coef. for:													
Grade index.....	-.56	.19	.22	.04	.17	.28	.22	-.18	-.17	.66	.48	.53	
Staple length.....	-.22	.62	.60	.11	.19	.02	.08	-.23	-.27	-.00	.19	.16	
Beta Coefficients for:													
Grade index.....	-.55	.15	.18*	.05*	.17	.29	.22	-.18	-.17	.68	.48	.53	
Staple length.....	-.18	.62	.58*	.12*	.20	.02*	.08*	-.23	-.28	-.00*	.17	.14*	
Regression Equation:													
Constant (a).....	+20.56	-146.62	-104.18	+3.31	-.93	+35.50	+6.43	+130.32	+114.68	+19.18	+40.91	+25.22	
Regression Coef. for:													
Grade index.....	-.10	.29	.05	.01	.02	.73	.50	-.34	-.25	.80	.39	.57	
Staple length.....	-.17	.56	.26	.07	.12	.30	+1.00	-2.34	-2.26	-.00	.77	.83	
Standard Error (±).....	.68	7.21	4.29	.55	.52	12.35	11.16	8.79	7.03	4.41	3.48	4.51	
DEPENDENT VARIABLE with													
GRADE INDEX, STAPLE LENGTH,													
MICRONAIRE													
Multiple Cor. Coef.....	.66	.68	.68	.44	.50	.49	.48	.66	.70	.68	.55	.59	
Partial Cor. Coef. for:													
Grade index.....	-.53	.20	.26	.15	.27	.20	.14	-.06	-.04	.66	.47	.50	
Staple length.....	-.21	.63	.61	.15	.24	-.00	.06	-.24	-.30	.19	.19	.15	
Micronaire.....	-.24	-.08	-.20	-.42	-.42	.41	.42	-.60	-.64	-.05	-.03	.12	
Beta Coefficients for:													
Grade index.....	-.51	.16	.21	.15*	.26	.20	.13*	-.05*	-.03*	.69	.48	.51	
Staple length.....	-.17	.62	.59	.15*	.22	-.00*	.06*	-.20	-.24	.00*	.17	.13	
Micronaire.....	-.20	-.06*	-.15	-.43	-.41	.40	.42	-.58	-.61	-.04*	-.03*	.10*	
Regression Equation:													
Constant (a).....	+21.09	-144.86	-101.50	+4.04	-.24	+19.58	-8.26	+146.91	+128.80	+19.83	+41.24	+23.52	
Regression Coef. for:													
Grade index.....	-.09	.31	.24	.02	.03	.49	.29	-.09	-.04	.81	.39	.55	
Staple length.....	-.16	.60	.36	.09	.13	-.05	.68	-1.98	-1.95	.01	.78	.79	
Micronaire.....	-.38	-.19	.21	-.52	.48	.11	.27	-10.14	-10.23	-.47	-.23	.18	
Standard Error (±).....	.66	7.19	4.21	.50	.50	11.27	10.00	7.02	5.42	4.41	3.48	4.48	

\* Statistically insignificant

Table 17.-- Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests on 317 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
Pet.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable.....	6.1	104	37	4.7	111	86	15	64	91	102	106		
Grayness.....	3	3	3	3	3	3	3	3	3	3	3		
Yellowness.....	3	3	3	3	3	3	3	3	3	3	3		
Nonlint content (S.A.).....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
2.5% span length.....	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08		
Micronaire.....	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		
Standard Deviation (±) for:													
Dependent variable.....	.88	9.8	5.7	.55	12.9	11.5	9.3	7.7	6.0	4.2	5.6		
Grayness.....	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Yellowness.....	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7		
Nonlint content (S.A.).....	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8		
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04		
Micronaire.....	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46		
Simple Correlation Coef. for													
Grayness.....	+.37	-.41	-.39	-.38	-.04	-.03	+.15	+.12	-.74	-.57	-.60		
Yellowness.....	-.08	-.12	-.09	+.15	+.02	+.06	+.15	+.14	+.27	+.07	+.29		
Nonlint content (S.A.).....	+.76	-.15	-.11	-.04	-.09	-.01	+.42	-.01	-.15	-.21	-.20		
2.5% span length.....	-.29	+.61	+.61	+.34	+.06	+.06	-.16	-.19	+.12	+.30	+.23		
Micronaire.....	-.34	+.06	-.02	-.32	+.45	+.46	-.62	-.65	+.13	+.12	+.24		
Multiple Cor. Data for:													
DEPENDENT VARIABLE WITH													
GRAYNESS, YELLOWNESS													
Multiple Cor. Coef. ....	.38	.43	.41	.30	.04	.07	.21	.19	.38	.78	.58		.66
Partial Cor. Coef. for:													
Grayness.....	+.37	-.41	-.40	-.38	-.04	-.02	+.15	+.13	-.76	-.57	-.61		-.61
Yellowness.....	-.07	-.15	-.12	+.15	+.02	+.06	+.16	+.15	+.36	+.06	+.33		+.33
Beta Coefficients for:													
Grayness.....	+.37	-.41	-.40	-.38	-.04*	-.02*	+.15*	+.13*	-.74	-.57	-.59		-.59
Yellowness.....	-.07*	-.14	-.11*	+.10*	+.02*	+.06*	+.16*	+.15*	+.24	+.05*	+.27		+.27
Regression Equation:													
Constant (a).....	+.53	+119.53	+45.38	+6.36	+111.52	+84.09	+10.09	+8.03	+75.26	+107.52	+107.74		
Regression Coef. for													
Grayness.....	+.32	-3.96	-2.22	-.15	-.45	-.28	+.141	+.94	-2.68	-4.34	-3.22		-3.22
Yellowness.....	-.09	-2.03	-.90	+.08	+.37	+.05	+.217	+1.66	-1.67	+2.14	+2.22		+2.22
Standard Error (±).....	.82	8.88	5.23	.53	12.92	11.49	9.12	7.42	7.10	3.75	4.20		
DEPENDENT VARIABLE WITH													
GRAYNESS, YELLOWNESS,													
NONLINT (S.A.)													
Multiple Cor. Coef. ....	.76	.43	.41	.31	.09	.07	.45	.44	.40	.80	.58		.66
Partial Cor. Coef. for:													
Grayness.....	+.15	-.38	-.38	-.40	-.00	-.03	-.01	-.03	-.29	-.77	-.60		-.60
Yellowness.....	-.04	-.15	-.11	+.16	+.01	+.06	+.41	+.19	-.17	+.38	+.34		+.34
Nonlint (S.A.).....	+.72	-.01	+.03	+.09	-.08	+.01	+.41	+.40	-.15	+.25	+.05		+.05
Beta Coefficients for:													
Grayness.....	+.10	-.41	-.41	-.43	-.00*	-.03*	-.01*	-.03*	-.30	-.80	-.60		-.60
Yellowness.....	-.02*	-.14	-.10*	+.15*	+.01*	+.06*	+.18	+.17	-.15	+.25	+.27		+.27
Nonlint (S.A.).....	+.72	-.01*	+.03*	+.09*	-.09*	+.01*	+.43	+.42	-.15*	+.17	+.05*		+.05*
Regression Equation:													
Constant (a).....	+.75	+119.81	+44.87	+6.22	+114.72	+83.77	-1.23	-.96	+78.39	+93.46	+107.38		+107.07
Regression Coef. for:													
Grayness.....	+.09	-3.92	-2.29	-.17	-.04	-.32	-.07	-.23	-2.28	-4.70	-3.30		-3.30
Yellowness.....	-.03	-2.04	-.89	+.09	+.27	+.06	+.52	-1.76	+2.22	+.31	+2.24		+2.24
Nonlint (S.A.).....	+.75	-.12	+.21	+.06	-.135	+.13	+.32	-1.32	+1.18	+.06	+.28		+.28
Standard Error (±).....	.57	8.88	5.23	.53	12.87	11.40	8.22	6.80	7.02	3.62	4.20		

Table 17.--Continued

Statistical Items	Dependent Variables													
	Picker & card waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential		Color of 22s yarn	
	Pct.	Lbs.	Fine 50s	Coarse 22s	Pct.	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	No.	Index	Gray yarn	Bleached yarn
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH														
Multiple Cor. Coef. ....	.78	.66	.66	.40	.53	.11	.10	.44	.68	.80	.60	.68		
Partial Cor. Coef. for:														
Grayness.....	+.09	-.25	-.23	-.20	-.29	+.02	+.00	-.06	-.17	-.75	-.49	-.54		
Yellowness.....	+.12	+.05	+.10	+.20	+.27	+.03	+.09	+.15	+.05	+.36	+.13	+.39		
Nonlint (S.A.).....	+.72	+.06	+.11	+.12	+.18	-.08	+.02	+.39	-.10	+.04	+.04	+.08		
2.5% span length.....	-.24	+.55	+.56	+.27	+.35	+.06	+.08	-.04	+.60	+.00	+.22	+.23		
Beta Coefficients for:														
Grayness.....	+.06*	-.23	-.21	-.22	-.29	+.02*	+.00*	-.06*	-.14	-.80	-.51	-.54		
Yellowness.....	-.08*	+.04*	+.08*	+.19	+.26	+.03*	+.09*	+.14*	+.04*	+.25	+.11*	+.33		
Nonlint (S.A.).....	+.70	+.05*	+.09*	+.12*	+.17	-.08*	+.02*	+.41	-.08*	+.17	+.03*	+.06*		
2.5% span length.....	-.17	+.55	+.57	+.28	+.35	+.06*	+.09*	-.09*	+.61	+.00	+.20	+.19		
Regression Equation:														
Constant (a).....	+8.50	-55.18	-60.84	+1.16	-1.50	+51.26	+88.35	+11.10	+21.38	+92.90	+81.15	+73.22		
Regression Coef. for:														
Grayness.....	+.06	-2.18	-1.17	-.12	-.16	+.23	+.01	-.43	-1.06	-4.70	-2.09	-2.94		
Yellowness.....	-.10	+.57	+.69	+.16	+.21	+.65	+1.55	+3.71	+.48	+2.34	+.70	+2.75		
Nonlint (S.A.).....	+.73	+.56	+.62	+.08	+.11	-1.25	+.26	+19.08	-.74	+1.18	+.16	+.41		
2.5% span length.....	-4.08	+149.10	+89.92	+4.30	+5.25	+22.47	+27.69	-19.08	+128.01	+4.47	+22.34	+28.79		
Standard Error (s).....	.55	7.41	4.31	.51	.47	12.85	11.45	6.77	5.63	3.63	3.33	4.09		
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE														
Multiple Cor. Coef. ....	.79	.66	.66	.58	.64	.46	.49	.71	.68	.81	.61	.71		
Partial Cor. Coef. for:														
Grayness.....	+.10	-.25	-.23	-.19	-.28	-.02	-.04	-.02	-.16	-.76	-.49	-.56		
Yellowness.....	-.11	+.05	+.11	+.24	+.32	+.01	+.07	+.22	+.06	+.36	+.13	+.39		
Nonlint (S.A.).....	+.69	+.06	+.08	-.03	+.06	+.29	+.18	-.12	+.60	+.29	+.06	+.16		
2.5% span length.....	-.23	+.55	+.57	+.33	+.40	+.03	+.05	-.06	+.60	-.01	+.21	+.22		
Micronaire.....	-.16	+.01	-.10	-.46	-.42	+.45	+.48	-.62	-.08	+.20	+.08	+.27		
Beta Coefficients for:														
Grayness.....	+.07*	-.23	-.20	-.18	-.27	-.02*	-.04*	-.02*	-.14	-.81	-.52	-.55		
Yellowness.....	-.07*	+.04*	+.09*	+.22	+.28	+.01*	+.06*	+.18	+.05*	+.24	+.11*	+.32		
Nonlint (S.A.).....	+.67	+.05*	+.07*	-.03*	+.05*	+.07*	+.18	-.10*	+.61	-.01*	+.19	+.13*		
2.5% span length.....	-.16	+.55	+.58	+.31	+.38	+.03*	+.05*	-.00*	+.61	-.01*	+.19	+.17		
Micronaire.....	-.11	+.00*	-.08*	-.44	-.38	+.47	+.51	-.59	-.06*	+.13	+.07*	+.21		
Regression Equation:														
Constant (a).....	+9.26	-55.50	-57.13	+3.12	+1.15	+39.79	+4.83	+52.25	+56.79	+86.81	+78.84	+64.00		
Regression Coef. for:														
Grayness.....	+.06	-2.18	-1.13	-.10	-.14	-.21	-.41	-.12	-1.03	-4.76	-2.11	-3.03		
Yellowness.....	-.10	+.57	+.72	+.18	+.23	+.20	+1.11	+1.94	+.51	+2.18	+.68	+2.66		
Nonlint (S.A.).....	+.70	+.58	+.44	-.02	+.03	+1.11	+2.52	-.93	+.99	+1.48	+.27	+.86		
2.5% span length.....	-3.89	+149.02	+90.83	+4.78	+5.66	+10.52	+16.26	-10.37	+128.95	-1.03	+21.77	+26.92		
Micronaire.....	-.21	+.09	-1.02	-.54	-.45	+13.31	+12.73	-9.69	-1.05	+1.67	+.21	+2.53		
Standard Error (s).....	.54	7.41	4.29	.45	.42	11.50	10.05	5.32	5.61	3.56	3.32	3.94		

\* Statistically insignificant

Table 18.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurement with processing tests performed on 317 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables																
	Picker & card waste	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections			Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Lbs.	Pct. 22s	Pct. 50s	Pct. 50s	Coarse 22s	Fine 50s	Index 22s	Index 50s	Coarse 22s	Fine 50s		No. 15	Gray yarn	Bleached yarn
Mean Values for:	Pct.	Lbs.	Lbs.	Pct.	Pct.	Pct.	Index	Index	Index	No.	No.	No.	No.	Index	Index	Index	Index
Dependent variable.....	6.1	104	37	6.2	4.7	4.7	111	86	111	20	15	64	91	102	106	106	106
2.5% span length.....	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Micronaire.....	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Fiber str. (1/8" gage).....	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage).....	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Standard Deviation (±) for																	
Dependent variable.....	.88	9.8	5.7	.55	.55	.55	12.9	11.5	12.9	9.3	7.6	7.7	6.0	4.2	5.6	5.6	5.6
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46
Fiber str. (1/8" gage).....	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Uniformity ratio.....	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Elongation (1/8" gage).....	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92	.92
Simple Correlation Coef. for:																	
2.5% span length.....	-.29	+.61	+.61	+.27	+.34	+.34	+.06	+.06	+.06	-.16	-.19	+.65	+.12	+.30	+.23	+.23	+.23
Micronaire.....	-.34	+.06	-.02	-.38	-.32	-.32	+.45	+.46	+.46	-.62	-.65	+.04	+.13	+.12	+.24	+.24	+.24
Fiber str. (1/8" gage).....	-.24	+.85	+.82	+.03	+.17	+.17	+.21	+.24	+.24	+.21	+.24	+.61	+.30	+.27	+.27	+.27	+.27
Uniformity ratio.....	-.18	+.39	+.36	-.17	-.02	-.02	+.40	+.51	+.51	-.42	-.49	+.30	+.14	+.12	+.33	+.33	+.33
Elongation (1/8" gage).....	-.07	-.08	-.10	+.70	+.59	+.59	-.29	-.37	-.37	+.08	+.08	+.15	+.01	+.20	+.15	+.15	+.15
Multiple Cor. Data for:																	
DEPENDENT VARIABLE with																	
2.5% SPAN LENGTH, MICRONAIRE																	
Multiple Cor. Coef. for:	.43	.61	.61	.49	.49	.49	.45	.46	.45	.63	.67	.65	.17	.32	.32	.32	.32
Partial Cor. Coef. for:																	
2.5% span length.....	-.27	+.61	+.61	+.33	+.39	+.39	+.02	+.02	+.02	-.13	-.17	+.65	+.11	+.30	+.22	+.22	+.22
Micronaire.....	-.33	+.01	-.10	-.42	-.37	-.37	+.45	+.46	+.46	-.62	-.65	-.03	+.12	+.09	+.23	+.23	+.23
Beta Coefficients for:																	
2.5% span length.....	-.25	+.61	+.61	+.31	+.37	+.37	+.02*	+.02*	+.02*	-.11*	-.13	+.65	+.11*	+.30	+.21	+.21	+.21
Micronaire.....	-.32	+.01*	-.08*	-.41	-.35	-.35	+.45	+.46	+.46	-.61	-.64	-.02*	+.12*	+.09*	+.22	+.22	+.22
Regression Equation:																	
Constant (a).....	+15.41	-73.71	-62.57	+3.21	+.50	+.50	+48.92	+31.98	+48.92	+102.27	+90.10	-83.48	+64.58	+62.42	+59.13	+59.13	+59.13
Regression Coef. for:																	
2.5% span length.....	-6.16	+163.60	+96.25	+4.70	+.55	+.55	+7.39	+4.76	+7.39	-26.92	-27.61	+137.52	+18.02	+33.74	+32.30	+32.30	+32.30
Micronaire.....	-.62	+.12	-1.02	-.49	-.42	-.42	+12.73	+11.50	+12.73	-12.50	-10.57	-.35	+1.63	+.80	+2.71	+2.71	+2.71
Standard Error (±).....	.80	7.81	4.53	.48	.48	.48	11.53	10.23	11.53	7.25	5.64	5.82	5.92	3.96	5.27	5.27	5.27
DEPENDENT VARIABLE with																	
2.5% SPAN LENGTH, MICRONAIRE																	
FIBER STR. (1/8" GAGE)																	
Multiple Cor. Coef. for:	.43	.88	.87	.51	.49	.49	.48	.50	.48	.63	.67	.73	.31	.32	.35	.35	.35
Partial Cor. Coef. for:																	
2.5% span length.....	-.20	+.41	+.42	+.36	+.32	+.32	-.06	-.09	-.06	-.09	-.09	+.51	-.03	+.23	+.12	+.12	+.12
Micronaire.....	-.32	-.18	-.32	-.40	-.38	-.38	+.43	+.44	+.43	-.61	-.64	-.10	+.09	+.09	+.21	+.21	+.21
Fiber str. (1/8" gage).....	-.08	+.80	+.78	-.16	+.06	+.06	+.16	+.21	+.16	-.06	-.12	+.44	+.26	+.06	+.15	+.15	+.15
Beta Coefficients for:																	
2.5% span length.....	-.21	+.24	+.26	+.39	+.34	+.34	-.06*	-.09*	-.06*	-.08*	-.08*	+.46	-.04*	+.26	+.13*	+.13*	+.13*
Micronaire.....	-.31	-.09	-.17	-.39	-.36	-.36	+.43	+.43	+.43	-.60	-.63	-.07*	+.07*	+.08*	+.20	+.20	+.20
Fiber str. (1/8" gage).....	-.08*	+.75	+.72	-.16*	+.06*	+.06*	+.17*	+.22	+.17*	-.06*	-.11*	+.39	+.30	+.06*	+.17*	+.17*	+.17*
Regression Equation:																	
Constant (a).....	+15.20	-52.88	-50.91	+2.96	+.59	+.59	+55.08	+39.02	+55.08	+100.76	+87.80	-74.93	+69.73	+63.19	+61.77	+61.77	+61.77
Regression Coef. for:																	
2.5% span length.....	-5.19	+65.82	+11.50	+5.87	+.54	+.54	-21.53	-28.29	-21.53	-19.83	-16.80	+97.42	-6.17	+30.15	+19.92	+19.92	+19.92
Micronaire.....	-.60	-1.89	-2.14	-.47	-.43	-.43	+12.14	+10.82	+12.14	-12.35	-10.35	-1.18	+1.13	+.73	+2.45	+2.45	+2.45
Fiber str. (1/8" gage).....	-.04	+4.10	+2.29	-.05	+.02	+.02	+1.21	+1.38	+1.21	-.30	-.45	+1.68	+1.01	+.15	+.52	+.52	+.52
Standard Error (±).....	.79	4.64	2.85	.48	.48	.48	11.38	10.01	11.38	7.23	5.60	5.22	5.71	3.95	5.21	5.21	5.21

Table 18.--Continued

Statistical Items	Dependent Variables													
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn			
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Gray yarn	Bleached yarn		Dyed yarn			
Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	Index	No.	No.	Index	Index	Index	Index	
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO														
Multiple Cor. Coef. ....	.44	.90	.89	.51	.51	.50	.56	.64	.68	.76	.31	.32	.40	
Partial Cor. Coef. for:														
2.5% span length.....	-.21	+.47	+.48	+.33	+.29	-.09	-.14	-.06	-.06	+.53	-.03	+.22	+.08	
Micronaire.....	-.30	-.36	-.48	-.39	-.41	+.31	+.26	-.52	-.53	-.23	+.08	+.05	+.08	
Fiber str. (1/8" gage)....	-.09	+.78	+.74	+.18	-.01	+.10	+.10	-.03	-.06	+.36	+.25	+.04	+.08	
Uniformity ratio.....	+.05	+.39	+.41	+.09	+.18	+.16	+.30	-.10	-.17	+.28	-.02	+.04	+.20	
Beta Coefficients for:														
2.5% span length.....	-.23	+.27	+.29	+.36	+.30	-.09*	-.14*	-.06*	-.05*	+.47	-.03*	+.25	+.09*	
Micronaire.....	-.34	-.20	-.30	-.46	-.46	+.34	+.26	-.56	-.55	-.19	+.10*	+.06*	+.08*	
Fiber str. (1/8" gage)....	-.10*	+.67	+.63	-.19	-.01*	+.11*	+.10*	-.02*	-.05*	+.31	+.31	+.05*	+.09*	
Uniformity ratio.....	+.06*	+.23	+.26	+.10*	+.20	+.18*	+.33	-.10*	-.16	+.24	-.02*	+.05*	+.24	
Regression Equation:														
Constant (a).....	+.14.57	-102.39	-83.07	+.2.38	-.81	+.24.91	-15.03	+.112.30	+.103.58	-111.59	+.71.26	+.60.73	+.43.56	
Regression Coef. for:														
2.5% span length.....	-.5.48	+.72.03	+.5.70	+.5.50	+.4.57	-33.55	-44.74	-14.70	-10.76	+.99.63	-5.50	+.29.07	+.13.70	
Micronaire.....	-.65	-4.37	-3.75	-.53	-.55	+.9.64	+.6.65	-11.36	-9.05	-3.16	+.1.26	+.52	+.1.01	
Fiber str. (1/8" gage)....	-.05	+.3.67	+.2.02	-.06	-.00	+.78	+.66	-.13	-.23	+.1.34	+.1.04	+.1.1	+.27	
Uniformity ratio.....	+.03	+.1.41	+.91	+.03	+.07	+.1.43	+.2.38	-.57	-.74	+.1.13	-.07	+.1.2	+.82	
Standard Error (±).....	.79	4.27	2.60	.48	.47	11.23	9.54	7.20	5.52	5.02	5.71	3.95	5.11	
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)														
Multiple Cor. Coef. ....	.45	.90	.89	.77	.73	.52	.60	.64	.69	.77	.33	.38	.47	
Partial Cor. Coef. for:														
2.5% span length.....	-.15	+.44	+.48	+.09	+.05	-.02	-.04	-.03	-.01	+.46	-.07	+.13	-.03	
Micronaire.....	-.31	-.36	-.49	-.42	-.42	+.30	+.24	-.52	-.54	-.21	+.10	+.08	+.11	
Fiber str. (1/8" gage)....	-.12	+.77	+.72	+.02	+.20	+.05	+.02	-.04	-.09	+.37	+.27	+.10	+.15	
Uniformity ratio.....	+.04	+.39	+.40	+.21	+.30	+.14	+.28	-.11	-.18	+.30	-.00	+.06	+.24	
Elongation (1/8" gage)....	-.13	+.02	-.08	+.67	+.61	-.18	-.26	-.07	-.11	+.23	+.11	+.21	+.27	
Beta Coefficients for:														
2.5% span length.....	-.17*	+.26	+.31	+.08*	+.05*	-.02*	-.04*	-.03*	-.01*	+.41	-.09*	+.16*	-.03*	
Micronaire.....	-.35	-.20	-.30	-.35	-.38	+.32	+.23	-.56	-.56	-.17	+.11*	+.08*	+.12*	
Fiber Str. (1/8" gage)....	-.14*	+.67	+.62	+.02*	+.18	+.05*	+.03*	-.04*	-.08*	+.37	+.35	+.12*	+.18*	
Uniformity ratio.....	+.04*	+.23	+.25	+.18	+.27	+.16*	+.30	-.11*	-.17	+.26	-.00*	+.07*	+.27	
Elongation (1/8" gage)....	-.13*	+.01*	-.04*	+.64	+.59	-.18	-.24	-.06*	-.09*	+.17	+.12*	+.22	+.28	
Regression Equation:														
Constant (a).....	+.14.94	-102.90	-81.99	+.1.27	-1.89	+.32.65	-5.47	+.114.25	+.105.96	-117.05	+.68.83	+.57.70	+.38.24	
Regression Coef. for:														
2.5% span length.....	-.4.12	+.70.79	+.8.35	+.1.15	+.72	-5.99	-12.25	-7.60	-2.34	+.85.26	-14.31	+.18.06	-.4.72	
Micronaire.....	-.68	-4.34	-3.81	-.43	-.46	+.9.00	+.5.90	-11.53	-9.25	-2.81	+.1.47	+.77	+.1.43	
Fiber str. (1/8" gage)....	-.07	+.3.69	+.1.97	+.01	+.06	+.36	+.17	-.23	-.36	+.1.57	+.1.17	+.28	+.55	
Uniformity ratio.....	+.02	+.1.42	+.89	+.06	+.09	+.125	+.2.16	-.61	-.79	+.1.23	+.1.19	+.28	+.95	
Elongation (1/8" gage)....	-.12	+.12	+.26	+.39	+.35	-2.52	-3.00	-.65	-.77	+.1.41	+.80	+.1.00	+.1.69	
Standard Error (±).....	.79	4.27	2.60	.36	.37	11.04	9.22	7.18	5.48	4.88	5.67	3.86	4.92	
* Statistically insignificant														

\* Statistically insignificant



Table 19.--Continued

Statistical Items	Dependent Variables											
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (O GAGE)												
Multiple Cor. Coef.....	.82	.89	.84	.59	.62	.72	.24	.37	.85	.72	.54	.63
Partial Cor. Coef. for:												
Grade index.....	-.76	+.22	+.15	-.02	+.02	+.12	+.06	-.06	+.21	+.41	-.08	-.05
Staple length.....	+.04	+.71	+.65	+.52	-.25	-.09	+.03	+.12	+.64	+.30	+.29	+.54
Micronaire.....	-.03	-.26	-.28	-.00	+.40	+.60	+.06	-.11	-.37	-.11	-.19	+.50
Fiber str. (o gage).....	-.02	+.13	-.06	-.29	-.06	-.27	+.13	+.18	-.09	+.06	+.13	-.03
Beta Coefficients for:												
Grade index.....	-.83	+.13*	+.11*	-.02*	+.02*	+.11*	+.08*	-.07*	+.14*	+.40*	-.09*	-.05*
Staple length.....	+.03*	+.68	+.69	+.72	-.30*	-.10*	+.04*	+.17*	+.65	+.32*	+.37*	+.74
Micronaire.....	-.02*	+.14*	+.18*	-.00*	+.40*	+.60	+.07*	-.12*	-.25*	-.09*	-.18*	+.53
Fiber str. (o gage).....	-.01*	+.08*	-.04*	-.32*	-.06*	-.25*	+.17*	+.22*	-.06*	+.05*	+.15*	-.04*
Regression Equation:												
Constant (a).....	+.22.76	-164.25	-118.04	-1.41	+168.49	+93.37	-54.30	-28.76	-135.35	+11.76	+56.16	-32.51
Regression Coef. for:												
Grade index.....	-.17	+.30	+.17	-.00	+.05	+.21	+.17	-.08	+.32	+.36	-.07	-.06
Staple length.....	+.03	+.68	+.62	+.27	-2.65	-.81	+.43	+.85	+.6.13	+.26	+.1.26	+.3.47
Micronaire.....	-.04	-3.40	-2.84	-.00	+8.20	+11.85	+1.46	-.47	-5.44	-.85	-1.45	+5.75
Fiber str. (o gage).....	-.00	+.23	-.08	-.03	-.16	-.62	+.48	+.32	-.17	+.06	+.14	-.05
Standard Error (±).....	.57	5.35	4.27	.35	8.06	6.79	10.83	5.47	5.84	3.19	3.33	4.26
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (O GAGE), UNIFORMITY RATIO												
Multiple Cor. Coef.....	.83	.89	.84	.60	.66	.74	.25	.42	.85	.72	.54	.69
Partial Cor. Coef. for:												
Grade index.....	-.71	+.20	+.06	+.05	-.08	+.04	+.02	-.14	+.23	+.38	-.06	+.10
Staple length.....	+.16	+.63	+.50	+.52	-.35	-.19	-.03	-.03	+.59	+.24	+.26	+.62
Micronaire.....	+.13	-.21	-.33	+.12	+.14	+.39	-.02	-.23	-.08	-.08	-.10	+.58
Fiber str. (o gage).....	-.11	+.13	+.03	-.33	+.06	-.18	+.16	+.25	-.12	+.05	+.10	-.19
Uniformity ratio.....	-.21	+.02	+.20	-.18	+.26	+.19	+.09	+.21	-.09	+.00	-.05	-.35
Beta Coefficients for:												
Grade index.....	-.77	+.12*	+.05*	+.06*	-.09*	+.04*	+.03*	-.18*	+.17*	+.40*	-.06*	+.10*
Staple length.....	+.16*	+.67	+.57	+.88	-.52*	-.24*	-.05*	-.05*	+.70	+.32*	+.42*	+.1.04
Micronaire.....	+.12*	-.15*	-.30*	+.15*	+.17*	+.46*	-.03*	-.31*	-.19*	-.09*	-.14*	+.82
Fiber str. (o gage).....	-.09*	+.08*	+.02*	-.41*	+.06*	-.17*	+.23*	+.34*	-.09*	+.05*	+.12*	-.20*
Uniformity ratio.....	-.19*	+.01*	+.17*	-.09*	+.31*	+.20*	+.13*	+.30*	-.07*	+.00*	-.07*	-.42*
Regression Equation:												
Constant (a).....	+.23.28	-164.65	-121.56	-1.15	+159.63	+87.71	-58.35	-33.65	-133.24	+11.73	+56.87	-26.34
Regression Coef. for:												
Grade index.....	-.15	+.29	+.07	+.01	-.18	+.08	+.07	-.21	+.38	+.36	-.05	+.11
Staple length.....	+.24	+.68	+.82	+.32	-4.61	-1.99	-.47	-.23	+.6.61	+.1.26	+.1.42	+.4.87
Micronaire.....	+.23	-3.61	-4.71	+.13	+3.61	+9.07	-.65	-.40	-4.31	-.86	-1.08	+9.02
Fiber str. (o gage).....	-.02	+.24	+.05	-.04	+.16	-.42	+.62	+.50	-.24	+.06	+.12	-.28
Uniformity ratio.....	-.12	+.10	+.84	-.06	+2.06	+1.24	+.94	+1.14	-.51	+.01	-.16	-1.46
Standard Error (±).....	.56	5.35	4.19	.34	7.78	6.67	10.78	5.34	5.82	3.19	3.32	3.98

\* Statistically insignificant

Table 20.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 38 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections		
	Picker & card waste	Coarse 22s		Coarse 22s		Pct.	Coarse 22s		Fine 50s	Coarse 22s		Spinning Potential
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Pct.	Index	Index	Index	No.	No.	No.
		115	43	6.2	5.0	77	97	24	16	76	102	105
Mean Values for:												
Dependent variable.....	8.1	115	43	6.2	5.0	77	97	24	16	76	102	105
Grayness.....	2	2	2	2	2	2	2	2	2	2	2	2
Yellowness.....	3	3	3	3	3	3	3	3	3	3	3	3
Nonlint content (S.A.).....	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
2.5% span length.....	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Standard Deviation ( $\pm$ ) for:												
Dependent variable.....	1.00	11.8	7.8	.34	.43	10.3	11.1	11.1	5.9	11.1	3.9	5.5
Grayness.....	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Yellowness.....	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
Nonlint content (S.A.).....	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Simple Correlation Coef. for:												
Grayness.....	+.62	-.74	-.69	-.53	-.52	+.40	+.40	+.00	-.14	-.70	-.48	-.32
Yellowness.....	-.12	-.11	-.21	+.18	+.02	+.28	+.29	+.12	+.10	-.10	-.12	+.45
Nonlint content (S.A.).....	+.85	-.36	-.28	-.14	-.03	+.13	+.13	-.12	-.21	-.30	-.36	-.04
2.5% span length.....	-.35	+.84	+.81	+.51	+.77	-.54	-.37	+.26	+.34	+.84	+.27	+.50
Micronaire.....	+.24	-.54	-.55	-.06	-.28	+.55	+.68	-.02	-.24	-.60	-.38	+.18
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS												
Multiple Cor. Coef. ....	.65	.74	.71	.59	.53	.47	.47	.12	.19	.70	.48	.58
Partial Cor. Coef. for:												
Grayness.....	+.64	-.73	-.69	-.57	-.53	+.39	+.39	-.01	-.16	-.70	-.47	-.41
Yellowness.....	-.23	-.06	-.19	+.28	+.09	+.26	+.27	+.12	+.12	-.04	-.08	+.51
Beta Coefficients for:												
Grayness.....	+.64	-.73	-.68	-.56	-.53	+.38*	+.38*	-.01*	-.16*	-.70	-.47	-.37*
Yellowness.....	-.18*	-.04*	-.14*	+.24*	+.08*	+.24*	+.25*	+.12*	+.12*	-.03*	-.07*	+.49
Regression Equation:												
Constant (a).....	+.77	+.138.15	+.61.23	+.6.28	+.5.35	+.75.30	+.55.68	+.17.73	+.14.96	+.96.26	+.107.65	+.96.19
Regression Coef. for:												
Grayness.....	+.67	-.9.09	-.5.56	-.20	-.24	+.4.11	+.3.90	-.13	-.97	-.8.15	-.1.94	-.2.11
Yellowness.....	-.33	-.79	-.1.93	+.15	+.06	+.4.41	+.4.36	+.2.36	+.1.26	-.62	+.1.64	+.4.75
Standard Error ( $\pm$ ).....	.76	7.97	5.51	.28	.36	9.11	8.68	11.07	5.79	7.87	2.34	4.47
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS,												
NONLINT (S.A.)												
Multiple Cor. Coef. ....	.87	.74	.72	.63	.63	.47	.48	.17	.23	.71	.50	.63
Partial Cor. Coef. for:												
Grayness.....	+.35	-.68	-.66	-.61	-.63	+.37	+.37	+.06	-.05	-.67	-.33	-.49
Yellowness.....	-.17	-.04	-.17	+.33	+.17	+.25	+.25	+.10	+.10	-.02	+.36	+.55
Nonlint (S.A.).....	+.77	+.08	+.16	+.29	+.40	-.08	-.09	-.12	-.14	+.15	-.02	+.30
Beta Coefficients for:												
Grayness.....	+.23*	-.77	-.76	-.72	-.77	+.43*	+.43*	+.08*	-.06*	-.77	-.85	-.54
Yellowness.....	-.08*	-.03*	-.12*	+.28*	+.14*	+.23*	+.23*	+.10*	+.10*	-.01*	+.20*	+.53
Nonlint (S.A.).....	+.72	+.07*	+.14*	+.29*	+.41*	-.09*	-.10*	-.15*	-.17*	+.13*	-.01*	+.30*
Regression Equation:												
Constant (a).....	+.547	+.135.90	+.58.24	+.6.00	+.4.85	+.77.86	+.58.30	+.22.41	+.17.79	+.92.36	+.96.40	+.91.59
Regression Coef. for:												
Grayness.....	+.24	-.9.58	-.6.21	-.26	-.35	+.4.67	+.4.46	+.88	-.36	-.9.00	-.4.09	-.3.11
Yellowness.....	-.15	-.60	-.1.67	+.17	+.10	+.4.13	+.4.13	+.1.95	+.1.01	-.28	+.1.63	+.5.15
Nonlint (S.A.).....	+.76	+.86	+.14	+.10	+.19	-.97	-.1.00	-.1.78	-.1.08	+.49	-.07	+.1.75
Standard Error ( $\pm$ ).....	.49	7.94	5.44	.26	.33	9.08	8.64	10.98	5.73	7.79	2.34	4.26



Table 21.---Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 38 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables											
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn	
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index
Mean Values for:												
Dependent variable.....	8.1	115	4.3	6.2	5.0	77	77	16	76		102	105
2.5% span length.....	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14		1.14	1.14
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Fiber str. (1/8" gage).....	24	24	24	24	24	24	24	24	24		24	24
Uniformity ratio.....	44	44	44	44	44	44	44	44	44		44	44
Elongation (1/8" gage).....	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7		6.7	6.7
Standard Deviation (+) for:												
Dependent variable.....	1.00	11.8	7.8	.34	.43	10.3	9.8	11.1	11.1		3.9	5.5
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04		.04	.04
Micronaire.....	.50	.50	.50	.50	.50	.50	.50	.50	.50		.50	.50
Fiber str. (1/8" gage).....	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13		1.13	1.13
Uniformity ratio.....	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6		1.6	1.6
Elongation (1/8" gage).....	.58	.58	.58	.58	.58	.58	.58	.58	.58		.58	.58
Simple Correlation Coef. for:												
2.5% span length.....	-.35	.81	.81	.51	.77	-.54	-.37	.34	.84		.51	.50
Micronaire.....	+.24	-.54	-.55	-.06	-.28	.55	.68	-.02	-.60		-.39	.18
Fiber str. (1/8" gage).....	-.45	.56	.43	-.06	.15	-.26	-.39	.07	.47		.31	.21
Uniformity ratio.....	-.34	+.21	+.26	.18	.12	.18	.29	.13	.13		.20	.22
Elongation (1/8" gage).....	+.25	-.22	-.22	.40	.31	.04	.17	-.11	-.25		-.19	.18
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE												
Multiple Cor. Coef. ....	.37	.88	.86	.53	.77	.66	.69	.27	.90		.56	.63
Partial Cor. Coef. for:												
2.5% span length.....	-.29	.82	.79	.53	.74	-.44	-.19	.27	.84		.43	.62
Micronaire.....	+.13	-.48	-.47	.15	-.01	.46	.63	.08	-.59		-.26	.45
Beta Coefficients for:												
2.5% span length.....	-.30*	.74	.70	.56	.76	-.39*	-.15*	.29*	.72		.43*	.65
Micronaire.....	+.13*	-.28	-.30	.14*	-.01*	.41	.62	.08*	-.34		-.24*	.42*
Regression Equation:												
Constant (a).....	+15.16	-96.04	-88.22	+66	-3.97	+172.66	+67.87	-71.18	-112.18		+47.27	-10.26
Regression Coef. for:												
2.5% span length.....	-7.15	+208.19	-131.24	+4.56	+7.85	-96.09	-35.11	.7730	+191.24		+46.58	+85.02
Micronaire.....	+.26	-6.57	-4.62	+.09	-.01	+8.56	+12.25	+1.78	-7.50		-2.20	+4.55
Standard Error (±).....	.93	5.65	4.02	.29	.28	7.73	7.12	10.73	4.81		3.80	4.23
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE,												
FIBER STR. (1/8" GAGE)												
Multiple Cor. Coef. ....	.49	.90	.86	.58	.78	.66	.71	.27	.91		.59	.64
Partial Cor. Coef. for:												
2.5% span length.....	-.19	.81	.76	.58	.76	-.42	-.11	.27	.82		.37	.58
Micronaire.....	+.07	-.45	-.45	.10	-.05	.45	.61	.07	-.57		-.23	.46
Fiber str. (1/8" gage).....	-.35	.45	.46	-.30	-.24	.01	-.23	-.02	.24		.22	.12
Beta Coefficients for:												
2.5% span length.....	-.19*	.66	.68	.65	.82	-.39*	-.09*	.30*	.69		.36*	.62
Micronaire.....	+.07*	-.24*	-.28*	.09*	-.04*	.42*	.59	.08*	-.32		-.20*	.43
Fiber str. (1/8" gage).....	-.36*	+.24*	+.09*	-.28*	-.17*	.00*	-.19*	-.03*	.12*		+.20*	.10*
Regression Equation:												
Constant (a).....	+20.31	-136.57	-98.21	+2.00	-2.92	+172.05	+94.12	-66.97	-46.49		+33.80	-18.11
Regression Coef. for:												
2.5% span length.....	-.43	+186.80	+125.97	+5.27	+8.41	-96.41	-21.25	+79.53	+29.25		+39.47	+80.87
Micronaire.....	+.14	-5.59	-4.38	+.06	-.03	+8.57	+11.62	+1.68	-1.06		-1.87	+4.74
Fiber str. (1/8" gage).....	-.32	+.62	+.62	-.08	-.06	+.04	-1.62	-.26	+1.38		+.83	.48
Standard Error (±).....	.87	5.04	3.97	.28	.27	7.73	6.93	10.72	5.31		3.70	4.20

Table 21.--Continued

Statistical Items	Dependent Variables														
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn				
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Pct.	Index	No.	Index		Coarse 22s	Fine 50s	Gray yarn	Bleached yarn	Dyed yarn
Pct.	Lbs.	Lbs.								No.	Index	Index	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO															
Multiple Cor. Coef.....															
Partial Cor. Coef. for:															
2.5% span length.....															
Micronaire.....															
Fiber str. (1/8" gage)....															
Uniformity ratio.....															
Beta Coefficients for:															
2.5% span length.....															
Micronaire.....															
Fiber str. (1/8" gage)....															
Uniformity ratio.....															
Regression Equation:															
Constant (a).....															
Regression Coef. for:															
2.5% span length.....															
Micronaire.....															
Fiber str. (1/8" gage)....															
Uniformity ratio.....															
Standard Error (±).....															
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)															
Multiple Cor. Coef.....															
Partial Cor. Coef. for:															
2.5% span length.....															
Micronaire.....															
Fiber str. (1/8" gage)....															
Uniformity ratio.....															
Elongation (1/8" gage)....															
Beta Coefficients for:															
2.5% span length.....															
Micronaire.....															
Fiber str. (1/8" gage)....															
Uniformity ratio.....															
Elongation (1/8" gage)....															
Regression Equation:															
Constant (a).....															
Regression Coef. for:															
2.5% span length.....															
Micronaire.....															
Fiber str. (1/8" gage)....															
Uniformity ratio.....															
Elongation (1/8" gage)....															
Standard Error (±).....															

\* Statistically insignificant

\* Statistically insignificant

Table 22.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 38 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables									
	Comber waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	No.	No.
Mean Values for:										
Dependent variable.....	16.3	133								
Grade index.....	91	50	6.6	5.3	109	89	11	9		
Staple length.....	35.7	35.7	35.7	35.7	91	91	35.7	35.7	91	91
Micronaire.....	4.0	4.0	4.0	4.0	35.7	35.7	4.0	4.0	35.7	35.7
Fiber strength (0 gage).....	88	88	88	88	4.0	4.0	4.0	4.0	4.0	4.0
Uniformity ratio.....	44	44	44	44	88	88	88	88	88	88
Standard Deviation ( $\pm$ ) for:					44	44	44	44	44	44
Dependent variable.....	1.71	12.3	.29	.35						
Grade index.....	5.0	5.0	5.0	5.0	11.6	10.1	4.9	3.8		
Staple length.....	1.17	1.17	1.17	1.17	5.0	5.0	5.0	5.0		
Micronaire.....	.50	.50	.50	.50	1.17	1.17	1.17	1.17		
Fiber strength (0 gage).....	4.0	4.0	4.0	4.0	.50	.50	.50	.50		
Uniformity ratio.....	1.6	1.6	1.6	1.6	4.0	4.0	4.0	4.0		
Simple Correlation Coef. for					1.6	1.6	1.6	1.6		
Grade index.....	-.34	+.61	+.07	+.35	-.45	-.45	+.03	+.18		
Staple length.....	-.57	+.85	+.24	+.52	-.61	-.61	+.24	+.34		
Micronaire.....	+.09	-.55	-.07	-.30	+.64	+.64	-.27	-.41		
Fiber strength (0 gage).....	-.14	+.68	-.06	+.17	-.50	-.50	+.22	+.38		
Uniformity ratio.....	-.43	+.16	+.14	+.13	+.10	+.10	-.10	-.10		
Multiple Cor. Data for:										
DEPENDENT VARIABLE with										
GRADE INDEX, STAPLE LENGTH										
Partial Cor. Coef. for:	.57	.87	.25	.52	.63	.63	.27	.34		
Grade index.....	-.03	+.31	-.08	+.08	-.16	-.16	-.12	-.01		
Staple length.....	-.48	+.78	+.24	+.42	-.48	-.48	+.27	+.29		
Beta Coefficients for:										
Grade index.....	-.03*	+.19*	-.10*	+.08*	-.16*	-.16*	-.15*	-.01*		
Staple length.....	-.55	+.74	+.29*	+.47*	-.52	-.52	+.32*	+.35*		
Regression Equation:										
Constant (a).....	+.46.18	-.191.01	+.4.50	-.29	+.328.78	+.298.56	-.24.83	-.31.64		
Grade index.....	-.01	+.48	-.01	+.01	-.37	-.36	-.15	-.01		
Staple length.....	-.81	+.85	+.07	+.14	-.5.21	-.4.97	+.1.37	-.1.15		
Standard Error ( $\pm$ ).....	1.41	6.07	.28	.30	9.06	8.66	4.78	3.60		
DEPENDENT VARIABLE with										
GRADE INDEX, STAPLE LENGTH,										
MICRONAIRE										
Multiple Cor. Coef. for:	.61	.88	.26	.52	.73	.80	.32	.44		
Partial Cor. Coef. for:										
Grade index.....	-.05	+.31	-.08	+.08	-.16	-.17	-.14	-.03		
Staple length.....	-.54	+.73	+.24	+.37	-.34	-.31	+.18	+.17		
Micronaire.....	-.26	-.28	+.05	-.05	+.48	+.64	-.18	-.29		
Beta Coefficients for:										
Grade index.....	-.04*	+.19*	-.09*	+.08*	-.13*	-.13*	-.16*	-.03*		
Staple length.....	-.67	+.67	+.32*	+.45*	-.32*	-.25*	+.20*	+.23*		
Micronaire.....	-.25*	-.16*	+.06*	-.05*	+.43*	+.58	-.21*	-.32*		
Regression Equation:										
Constant (a).....	+.56.23	-.145.47	+.4.10	+.12	+.211.26	+.148.35	-.1.03	-.3.19		
Regression Coef. for:										
Grade index.....	-.02	+.46	-.01	+.01	-.31	-.28	-.16	-.02		
Staple length.....	-.98	+.7.07	+.08	+.14	-.3.21	-.2.41	+.97	+.66		
Micronaire.....	-.86	-.3.91	+.03	-.04	+.10.08	+.12.89	-.2.04	-.2.44		
Standard Error ( $\pm$ )										

Table 22.--Continued

Statistical Items	Dependent Variables									
	Comber waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
	Pct.	Lbs.	Lbs.	Pct.	Pct.	50s or 12 tex	22s or 27 tex	Index	22s or 27 tex	50s or 12 tex
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)										
Multiple Cor. Coef.....	.67	.90	.90	.36	.56			.81	.36	.51
Partial Cor. Coef. for										
Grade index.....	-.15	+20	+26	-.01	+14			-.10	-.18	-.11
Staple length.....	-.62	+65	+72	+33	+43			-.22	+09	+03
Micronaire.....	-.31	-.33	-.26	+08	-.03			+66	-.20	-.33
Fiber str. (0 gage).....	+37	+40	+21	-.26	-.23			-.22	+16	+29
Beta Coefficients for:										
Grade index.....	-.14*	+11*	+15*	-.01*	+15*			-.07*	-.21*	-.12*
Staple length.....	-.85	+55	+65	+48*	+57*			-.17*	+13*	+04*
Micronaire.....	-.28*	-.18*	-.13*	+09*	-.03*			+45	-.22*	-.35*
Fiber str. (0 gage).....	+38*	+25*	+12*	-.33*	-.26*			-.17*	+20*	+34*
Regression Equation:										
Constant (a).....	+55.22	-148.21	-94.07	+4.22	+24		+213.71	+149.57	-2.48	-5.12
Regression Coef. for:										
Grade index.....	-.05	+28	+18	-.00	+01		-.16	-.17	-.21	-.09
Staple length.....	-1.25	+5.80	+3.31	+12	+17		-2.14	-1.62	+55	+12
Micronaire.....	-.97	-4.40	-1.56	+05	-.02		+10.50	+13.19	-2.20	-2.65
Fiber str. (0 gage).....	+16	+76	+18	-.02	-.02		-.63	-.47	+24	+32
Standard Error (±).....	1.27	5.35	2.54	.27	.29		7.70	6.46	4.63	3.30
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO										
Multiple Cor. Coef.....	.68	.90	.90	.36	.57			.81	.36	.51
Partial Cor. Coef. for:										
Grade index.....	-.12	+18	+27	+02	+18			-.06	-.16	-.13
Staple length.....	-.52	+57	+66	+30	+43			-.11	+08	-.02
Micronaire.....	-.20	-.26	-.14	+10	-.07			+57	-.29	+29
Fiber str. (0 gage).....	+32	+37	+17	-.26	-.27			-.23	+15	+07
Uniformity ratio.....	-.05	+01	-.07	-.06	-.14			-.08	+00	+07
Beta Coefficients for:										
Grade index.....	-.12*	+11*	+17*	+02*	+21*			-.05*	-.21*	-.15*
Staple length.....	-.81	+55	+69	+54*	+70*			-.12*	+13*	-.03*
Micronaire.....	-.24*	-.18*	-.10*	+14*	+10*			+65	-.22*	-.41*
Fiber str. (0 gage).....	+36*	+25*	+10*	-.36*	-.33*			-.20*	+20*	+37*
Uniformity ratio.....	-.06*	+01*	-.05*	-.08*	-.18*			-.07*	+00*	+09*
Regression Equation:										
Constant (a).....	+55.50	-148.40	-93.32	+4.28	+42		+211.13	+151.59	-2.51	-6.12
Regression Coef. for:										
Grade index.....	-.04	+27	+20	+00	+01		-.23	-.11	-.21	-.11
Staple length.....	-1.19	+5.75	+3.48	+13	+21		-2.74	-1.12	+55	-.09
Micronaire.....	-.82	-4.51	-1.16	+08	-.07		+9.08	+14.36	-2.21	-3.15
Fiber str. (0 gage).....	+15	+76	+15	-.03	-.03		-.54	-.55	+25	+35
Uniformity ratio.....	-.06	+05	-.18	-.01	-.04		+64	-.52	+01	+23
Standard Error (±).....	1.26	5.35	2.53	.27	.29		7.67	6.44	4.63	3.29

\* Statistically insignificant

Table 23.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 38 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables									
	Comber waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
Mean Values for:										
Dependent variable.....	16.3	133								
Grayness.....	2	2			5.3	50	6.6	89	11	9
Yellowness.....	3	3			2	2	2	2	2	2
Nonlint content (S.A.).....	3.3	3.3			3	3	3	3	3	3
2.5% span length.....	1.14	1.14			3.3	3.3	3.3	3.3	3.3	3.3
Micronaire.....	4.0	4.0			1.14	1.14	1.14	1.14	1.14	1.14
Standard Deviation (±) for:					4.0	4.0	4.0	4.0	4.0	4.0
Dependent variable.....	1.71	12.3								
Grayness.....	.09	.09			.35	5.9	.29	10.1	4.9	3.8
Yellowness.....	.06	.06			.09	.09	.09	.09	.09	.09
Nonlint content (S.A.).....	.09	.09			.06	.06	.06	.06	.06	.06
2.5% span length.....	.04	.04			.09	.09	.09	.09	.09	.09
Micronaire.....	.50	.50			.04	.04	.04	.04	.04	.04
Simple Correlation Coef. for:					.50	.50	.50	.50	.50	.50
Grayness.....	.45	.73			.62	.74	.37	.46	.04	.14
Yellowness.....	.14	.12			.00	.13	.13	.29	.12	.04
Nonlint content (S.A.).....	.12	.35			.42	.35	.09	.42	.16	.16
2.5% span length.....	.76	.77			.67	.84	.38	.50	.20	.25
Micronaire.....	.09	.55			.30	.54	.07	.75	.27	.41
Multiple Cor. Data for:										
DEPENDENT VARIABLE with										
GRAYNESS, YELLOWNESS										
Multiple Cor. Coef.....	.46	.73			.62	.74	.40	.52	.14	.15
Partial Cor. Coef. for:										
Grayness.....	.44	.73			.62	.74	.39	.45	.06	.14
Yellowness.....	.10	.07			.08	.07	.18	.27	.13	.06
Beta Coefficients for:										
Grayness.....	.44*	.73			.62	.74	.38*	.44	.06*	.14*
Yellowness.....	.09*	.05*			.06*	.05*	.17*	.07*	.13*	.06*
Regression Equation:										
Constant (a).....	+13.73	+156.94			+5.73	+61.52	+6.60	+63.55	+8.27	+8.76
Regression Coef. for:										
Grayness.....	.80	.94			.23	.48	.12	.51	.30	.58
Yellowness.....	.28	.10			.04	.53	.09	.47	.16	.38
Standard Error (±).....	1.52	8.35			.28	3.94	.26	9.47	4.91	3.79
DEPENDENT VARIABLE with										
GRAYNESS, YELLOWNESS										
NONLINT (S.A.)										
Multiple Cor. Coef.....	.48	.74			.68	.75	.56	.57	.15	.17
Partial Cor. Coef. for:										
Grayness.....	.45	.68			.68	.70	.54	.26	.08	.06
Yellowness.....	.07	.06			.15	.06	.27	.32	.14	.04
Nonlint (S.A.).....	.17	.09			.36	.11	.43	.27	.06	.09
Beta Coefficients for:										
Grayness.....	.55	.77			.82	.79	.66	.27*	.10*	.08*
Yellowness.....	.07*	.04*			.11*	.04*	.23*	.28*	.14*	.04*
Nonlint (S.A.).....	.18*	.08*			.35*	.09*	.48*	.28*	.07*	.11*
Regression Equation:										
Constant (a).....	+14.60	+154.26			+5.39	+60.04	+6.22	+54.78	+7.24	+9.97
Regression Coef. for:										
Grayness.....	.99	.98			.31	.91	.20	.32	.52	.32
Yellowness.....	.20	.83			.07	.40	.12	.54	.25	.27
Nonlint (S.A.).....	.33	.02			.13	.56	.15	.34	.39	.46
Standard Error (±).....										

Table 23.--Continued

Statistical Items	Dependent Variables									
	Comber waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH										
Multiple Cor. Coef. for:	.76	.85		.90	.58		.64	.65	.28	.32
Partial Cor. Coef. for:										
Grayness.....	+16	-.59		-.62	-.47		+14	+11	+03	+05
Yellowness.....	-.03	+04		+08	+.29		+06	+29	+17	+08
Nonlint (S.A.).....	+03	-.10		-.16	+.38		+35	+.28	-.01	-.17
2.5% span length.....	-.67	+62		+75	+15		-.43	-.39	+24	+27
Beta Coefficients for:										
Grayness.....	+15*	-.52		-.48	-.58		+15*	+11*	+03*	+06*
Yellowness.....	-.02*	+02*		+04*	+.25*		+04*	+.23*	+18*	+08*
Nonlint (S.A.).....	+03*	-.07*		-.09*	+.43*		+.37*	+.40*	-.01*	-.21*
2.5% span length.....	-.77	+55		+.66	+.17*		-.49*	-.42*	+.31*	+.35*
Regression Equation:										
Constant (a).....	+51.62	-35.46		-48.71	+4.86		+242.49	+185.14	-35.49	-27.35
Regression Coef. for:										
Grayness.....	+27	-6.79		-2.98	-.18		+1.81	+1.29	+1.18	+25
Yellowness.....	-.06	+52		+37	+13		+.92	+4.60	+1.55	+54
Nonlint (S.A.).....	+05	-.92		-.55	+09		+4.50	+4.68	-.05	-.84
2.5% span length.....	-31.40	+168.88		+92.60	+3.68		-135.21	-111.78	+36.50	+31.97
Standard Error ( $\pm$ ).....	1.12	6.53		2.59	.24		8.94	8.39	4.76	3.63
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE										
Multiple Cor. Coef. for:	.79	.87		.92	.58		.78	.83	.45	.53
Partial Cor. Coef. for:										
Grayness.....	+26	-.52		-.57	-.46		-.07	-.16	+15	+21
Yellowness.....	+11	+21		+25	+.25		-.21	+.01	+31	+27
Nonlint (S.A.).....	+06	-.08		-.13	+.38		+.37	+.44	+02	-.15
2.5% span length.....	-.69	+64		+77	+16		-.48	-.46	+23	+27
Micronaire.....	-.33	-.40		-.41	+.05		+.58	+.68	-.37	-.45
Beta Coefficients for:										
Grayness.....	+25*	-.43		-.40	-.60*		-.06*	-.13*	+20*	+26*
Yellowness.....	+07*	+12*		+11*	+.24*		-.15*	+.01*	+33*	+27*
Nonlint (S.A.).....	-.05*	-.07*		-.07*	+.43*		+.32*	+.35*	+03*	-.16*
2.5% span length.....	-.78	+53		+64	+.17*		-.45	-.38*	+.28*	+32*
Micronaire.....	-.26*	-.26*		-.22*	+.05*		+.55	+.64	-.44*	-.53*
Regression Equation:										
Constant (a).....	-54.70	-13.51		-39.71	+4.76		+199.06	+136.97	-20.68	-13.50
Regression Coef. for:										
Grayness.....	+44	-5.52		-2.47	-.18		-.72	-1.52	+1.04	+1.05
Yellowness.....	+23	+256		+1.21	+12		-3.13	+.12	+2.93	+1.83
Nonlint (S.A.).....	+09	-.64		-.43	+13		+3.94	+4.06	+15	-.66
2.5% span length.....	-32.08	+156.99		+00.60	+1.19		-125.52	-101.04	+33.20	+28.88
Micronaire.....	-.91	-6.47		-2.65	+.03		+12.83	+14.22	-4.37	-4.09
Standard Error ( $\pm$ ).....	1.06	5.99		2.36	.24		7.31	6.14	4.43	3.24

\* Statistically insignificant

Table 24.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 38 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1972

Statistical Items	Dependent Variables									
	Comber waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	22s or 27 tex	Index	No.
Mean Values for:										No.
Dependent variable.....	16.3	133								11
2.5% span length.....	1.14	1.14								9
Micronaire.....	4.0	4.0								1.14
Fiber str. (1/8" gage).....	24	24								4.0
Uniformity ratio.....	44	44								24
Elongation (1/8" gage).....	6.7	6.7								44
Standard Deviation (±) for:										6.7
Dependent variable.....	1.71	12.3								
2.5% span length.....	.04	.04								3.8
Micronaire.....	.50	.50								.04
Fiber str. (1/8" gage).....	1.1	1.1								.50
Uniformity ratio.....	1.6	1.6								1.1
Elongation (1/8" gage).....	.58	.58								1.6
Simple Correlation Coef. for:										.58
2.5% span length.....	-.76	+.77								+.25
Micronaire.....	+.09	-.55								-.27
Fiber str. (1/8" gage).....	-.26	+.56								+.13
Uniformity ratio.....	-.43	+.16								-.10
Elongation (1/8" gage).....	-.03	-.25								-.30
Multiple Cor. Data for:										
DEPENDENT VARIABLE with										
2.5% SPAN LENGTH, MICRONAIRE										
Multiple Cor. Coef. ....	.78	.83								.29
Partial Cor. Coef. for:										
2.5% span length.....	-.78	+.74								+.13
Micronaire.....	-.29	-.46								-.35
Beta Coefficients for:										
2.5% span length.....	-.83	+.66								+.12*
Micronaire.....	-.20*	-.32								-.23*
Regression Equation:										
Constant (a).....	+.57-.91	-.57-.82								+.4.20
Regression Coef. for:										
2.5% span length.....	-.33-.96	+.194-.03								+.13.82
Micronaire.....	-.69	-.7.75								-.2.24
Standard Error (±).....	1.07	6.89								4.75
DEPENDENT VARIABLE with										
2.5% SPAN LENGTH, MICRONAIRE,										
FIBER STR. (1/8" GAGE)										
Multiple Cor. Coef. ....	.78	.86								.48
Partial Cor. Coef. for:										
2.5% span length.....	-.76	+.71								+.10
Micronaire.....	-.28	-.44								-.21
Fiber str. (1/8" gage).....	-.00	+.42								+.02
Beta Coefficients for:										
2.5% span length.....	-.83	+.58								+.11*
Micronaire.....	-.20*	-.27*								-.32*
Fiber str (1/8" gage).....	-.00*	+.26*								+.25*
Regression Equation:										
Constant (a).....	+.57-.92	-.103-.87								+.2.44
Regression Coef. for:										
2.5% span length.....	-.33-.95	+.169-.73								+.12.89
Micronaire.....	-.69	-.6.64								-.2.20
Fiber str. (1/8" gage).....	-.00	+.2.84								+.11
Standard Error (±).....	1.07	6.25								4.75

Table 24.--Continued

Statistical Items	Dependent Variables									
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO										
Multiple Cor. Coef.....	.80	.86	.91	.47	.68	.80	.86	.30	.49	
Partial Cor. Coef. for:										
2.5% span length.....	-.66	+.70	+.81	+.30	+.54	-.39	-.28	+.12	+.10	
Micronaire.....	-.08	-.40	-.41	-.05	-.11	+.40	+.63	-.14	-.21	
Fiber str. (1/8" gage).....	+.13	+.37	+.42	-.30	-.12	-.53	-.54	+.05	+.28	
Uniformity ratio.....	-.31	+.06	+.07	+.14	+.04	+.25	+.12	-.07	-.12	
Beta Coefficients for:										
2.5% span length.....	-.69	+.57	+.67	+.39*	+.65	-.31*	-.18*	+.16*	+.11*	
Micronaire.....	-.06*	-.29*	-.25*	-.06*	-.10*	+.34*	+.54	-.17*	-.25*	
Fiber str. (1/8" gage).....	+.09*	+.25*	+.23*	-.33*	-.11*	-.44	+.06*	+.30*	+.30*	
Uniformity ratio.....	-.25*	+.04*	+.04*	+.16*	+.04*	+.20*	+.08*	-.09*	-.13*	
Regression Equation:										
Constant (a).....	+58.10	-108.48	-81.88	+4.47	-.23	+224.02	+167.53	+2.65	-6.57	
Regression Coef. for:										
2.5% span length.....	-28.38	+167.28	+94.08	+2.67	+5.51	-86.68	-48.20	+18.72	+10.45	
Micronaire.....	-.21	-7.18	-2.92	-.03	-.07	+7.82	+12.05	-1.70	-1.90	
Fiber str. (1/8" gage).....	+.14	+2.68	+1.21	-.08	-.03	-4.56	-3.93	+.26	+1.02	
Uniformity ratio.....	-.27	+.31	+.14	+.03	+.01	+1.46	+.54	-.29	-.32	
Standard Error (±).....	1.02	6.24	2.48	.25	.26	6.91	5.70	4.73	3.34	
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)										
Multiple Cor. Coef.....	.81	.87	.91	.67	.86	.80	.87	.31	.50	
Partial Cor. Coef. for:										
2.5% span length.....	-.60	+.64	+.79	+.06	+.37	-.35	-.14	+.08	+.12	
Micronaire.....	+.00	-.44	-.43	-.36	-.55	+.36	+.67	-.16	-.15	
Fiber str. (1/8" gage).....	+.05	+.41	+.43	-.02	+.32	-.49	-.61	+.08	+.21	
Uniformity ratio.....	-.33	+.12	+.12	+.35	+.36	+.23	+.00	-.04	-.13	
Elongation (1/8" gage).....	-.13	+.19	+.15	+.54	+.72	-.03	-.33	+.08	-.07	
Beta Coefficients for:										
2.5% span length.....	-.64	+.52	+.64	+.07*	+.31*	+.30*	-.09*	+.11*	+.15*	
Micronaire.....	+.00*	-.37*	-.30*	-.43*	-.51	+.35*	+.67	-.23*	-.20*	
Fiber str. (1/8" gage).....	+.04*	+.31*	+.27*	-.02*	+.23*	-.45	-.51	+.11*	+.26*	
Uniformity ratio.....	-.29*	+.08*	+.07*	+.37*	+.27*	+.19*	+.00*	-.06*	-.16*	
Elongation (1/8" gage).....	-.11*	+.14*	+.09*	+.69	+.75	-.03*	-.24*	+.11*	-.09*	
Regression Equation:										
Constant (a).....	+60.86	-137.14	-91.53	+1.86	-3.80	+229.03	+208.10	-4.69	-1.62	
Regression Coef. for:										
2.5% span length.....	-26.37	+154.07	+90.52	+.48	+2.65	-83.65	-23.98	+13.37	+14.02	
Micronaire.....	+.00	-9.01	-3.50	-.25	-.36	+8.17	+14.90	-2.86	-1.53	
Fiber str. (1/8" gage).....	+.06	+3.36	+1.42	-.00	+.07	-4.69	-4.99	+.47	+.88	
Uniformity ratio.....	-.31	+.65	+.25	+.07	+.06	+1.40	+.02	-.18	-.39	
Elongation (1/8" gage).....	-.34	+2.96	+.93	+.35	+.46	-.57	-4.61	+.91	-.61	
Standard Error (±).....	1.01	6.12	2.45	.21	.18	6.91	5.39	4.72	3.33	

Statistically insignificant

\* Statistically insignificant

## MEASURES USED IN STATISTICAL ANALYSIS

Some of the statistical concepts used in this study may be unfamiliar to many who will find the information in this report useful. Results reported in this study include the means, standard deviations, simple and multiple correlation coefficients, beta values, partial correlation coefficients and regression equations for each cotton quality measurement. Formulas of each of these results may be found in any good textbook on statistical correlation. However, for those not familiar with these concepts the following common language explanation is given for each item as it is used in this report:

(1) Mean Value is the simple arithmetical average of each measured property for the spinning lots included in the study.

(2) Standard deviation is a measure of dispersion around the mean value, expressed in the same terms as the variable. For a normal distribution, approximately 68 percent of the values will be within plus or minus one standard deviation of the mean, 95 percent within plus or minus two standard deviations, and nearly all values will be within plus or minus three standard deviations.

Example: (from Table 16, column 1, page 89)

The mean or average value for picker and card waste, the dependent variable, is 6.1 percent and the standard deviation is .88 percent. This indicates that 68 percent of the lots tested in the medium staple group should contain between 5.2 and 7.0 percent waste ( $6.1 \pm .88$ ). Ninety five percent of the lots tested would have from 4.3 to 7.9 percent waste ( $6.1 \pm 1.76$ ) and nearly all of the test lots would show waste values between 3.5 and 8.7 percent ( $6.1 \pm 2.64$ ).

(3) Simple correlation coefficient (r) is a measure of the linear relationship between two variables, ie. how one variable is associated with the other. A correlation coefficient of 0 indicates no relationship, and 1.0 indicates a perfect relationship. A plus sign before the correlation coefficient indicates that the values for both variables change in the same direction, whereas a minus sign indicates that they change in opposite directions.

Example: (from Table 16, column 1, page 89)

The simple correlation coefficient (r) of grade index with picker and card waste is -.61. This indicates that grade index and picker and card waste are related. It further indicates by the - sign that as one goes up or down the other goes in the opposite direction.

(4) Multiple correlation coefficient (R) is a measure of the linear relationship between one dependent variable and two or more independent variables. It has no plus or minus sign because one independent variable may contribute positively, and another negatively, in explaining the variation in the dependent variable. The multiple R may fall between 0 and 1.0, with 0 indicating no relationship and 1.0 a perfect relationship.

Example: (from Table 16, column 1, page 89)

The multiple R for the dependent variable of picker and card waste with independent variables of grade index, staple length and micronaire is .66. This indicates that the combination of grade index, staple length and micronaire shows a definite relationship to picker and card waste. It does not explain, however, whether grade index, staple length and micronaire contribute positively or negatively to picker and card waste or which of the three is most important.

(5) Although the coefficient of determination ( $R^2$ , or  $r^2$ ) is not given, it may be easily obtained by squaring the simple  $r$ 's or multiple  $R$ 's and multiplying by 100. This gives the percentage of variation explained, a measure of the amount of variation in the dependent variable which is explained by variation in the independent variables.

Example:

The multiple R in the example above is .66. When this is squared and multiplied by 100 the result is 43.6. This means that 43.6 percent of the variation in picker and card waste is explained by grade index, staple length and micronaire. The remaining 56.4 percent of the variation is unexplained.

(6) Partial correlation coefficient ( $r$ ) in a multiple analysis is similar to a simple correlation coefficient. The simple  $r$  indicates the statistical relationship between two variables without any control of other variables. In a multiple analysis, the partial correlation coefficient is one measure of the net relationship between one independent variable and the dependent variable while the influence of the other independent variables are statistically removed.

Example: (from Table 16, column 1, page 89)

The partial correlation coefficients ( $r$ ) for picker and card waste with grade index, staple length and micronaire are:  $-.53$  for grade index,  $-.21$  for staple length and  $-.24$  for micronaire. This shows that picker and card waste is related to grade index and that when one goes up or down the other goes in the opposite direction. It further shows that staple length and micronaire have less affect on picker and card waste than grade index since the values for these two variables are much smaller.

(7) Beta coefficients ( $B$ ) in a multiple correlation are sometimes preferred over use of partial  $r$ 's. A Beta coefficient is another measure of the relative importance of a variable in a multiple correlation, with the influence of the other variables removed. Quite often, only one of these measures (Beta or partial  $r$ ) is used for interpretation; both are included in this report. An asterisk beside the Beta value indicates that the result is statistically insignificant (less than three times its standard error).

Example:

The Beta ( $B$ ) coefficients in the above example are  $-.51$  for grade index,  $-.17$  for staple length and  $-.20$  for micronaire. This shows the same relative results as the partial correlation coefficients ( $r$ ) and further indicates that grade index is the most important property in predicting picker and card waste and that staple length has the least influence.

(8) Regression equation or estimating equation is used to predict changes in the dependent variable which will result from changes in the independent variable or variables. It is written:

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_NX_N$$

where Y is the dependent variable and the X's are independent variables.

The constant "a" indicates the starting point or height of the regression line when it is to be plotted on a graph or to be used in calculating changes in the dependent variable. The regression coefficient "b" indicates the change in the dependent variable that is associated with each unit change in the independent variable. The spread or scatter of the data around the regression line is measured by the standard error. The standard error has the same relationship to the regression line as the standard deviation has to the mean value. (see paragraph (2) above)

Example: (from Table 16, column 1, page 89)

Regression equation for picker and card waste:

Constant (a)	+21.09
Regression coefficients (b)	
Grade index	-.09
Staple length	-.16
Micronaire	-.38
Standard error	±.66

With regression coefficients (b) of -.09 for grade index, -.16 for staple length and -.38 for micronaire reading the following average conditions should exist:

1. With any unit change in grade index, picker and card waste percentage should change .09 in the opposite direction.
2. With any unit change (32nd) in staple length, picker and card waste percentage should change .16 in the opposite direction.
3. With any unit change (1.0) in micronaire reading, picker and card waste percentage should change .38 in the opposite direction.

Expressing this equation algebraically we have:

Estimated picker and card waste (percent) =  
21.09 - .09 (grade index) - .16 (staple length) - .38 (micronaire)

Thus if we wished to predict the amount of picker and card waste from a bale of cotton of Strict Low Middling (94 index), a staple length of 1-1/16 inches (34 32ds) and a micronaire of 4.4, the equation would be:

$$\text{Estimated picker and card waste} = 21.09 - .09(94) - .16(34) - .38(4.4)$$

$$\text{Estimated picker and card waste} = 5.52\%$$

The standard error of the equation of  $\pm .66$  indicates that the actual picker and card waste obtained from this kind of cotton would be within plus or minus .66 percent (between 4.86 and 6.18) 68 times in 100.

A check on the accuracy of this figure can be made from the average results for SLM grade, 1-1/16 inch staple, in Table 3 for the different Areas.

Regression equations are given in the tables for multiple relationships only. Equations for simple relationships may be calculated by using the formula:

$$Y = a + bX$$

$$\text{where } a = \text{Mean } Y - b(\text{Mean } X)$$

$$b = r \frac{\text{Std. Dev. } Y}{\text{Std. Dev. } X}$$

#### INTERPRETING STATISTICAL DATA

In referring to the data presented in the tables of this report, it is well to keep in mind several factors which influence the results and could lead to erroneous conclusions.

Correlation values are significantly influenced by the specific variables included, and by their number. This is due to the interrelationships of fiber properties. As interrelated properties are added to a correlation, the specific contribution of a given property may decrease sharply while at the same time the overall correlation will increase. For example, a correlation of staple length with yarn strength usually shows a good relationship, with a large amount of the variation in yarn strength explainable by differences in staple length. But, as other measures are taken into consideration, particularly fiber strength at 1/8-inch gage, the importance of staple length in explaining the total variation in yarn strength decreases rather sharply, even though the total variation explained is increased. This situation occurs because fiber strength is more closely related to yarn strength than is staple length. Yet, when fiber strength is not included in the correlation, some of the effects of strength are evidenced through the interrelation of strength and staple length.

Perhaps the most important fact to be kept in mind is that the use of only one statistic, such as a multiple R, a partial r, or a Beta value, can lead to erroneous conclusions. In order to determine the importance of any variable, all of the statistical items for each study should be considered.

# BASIS FOR INTERPRETATION

The following explanation of the data published in Tables 1 through 9 of this report may be helpful in the interpretation of test results:

## Classification

Classification was made in accordance with the official Cotton Standards for grade and staple length. These results are presented under the usual terms for the individual lots but the grade values were converted to an index for averaging in the summary tables.

Grade index, as reported in the summary tables is designed to reflect differences in market value and provides a method for averaging the grade for a number of individual lots. Middling grade is used as the basis of 100, and higher or lower index numbers reflect higher or lower average market values, respectively. Index values for white, spotted, tinged and gray grades of upland cotton are shown below:

Name	Grade Code:	Grade Index						
		: Plus : (0)	: White : (1)	: Spotted : (2)	: Spotted : (3)	: Tinged : (4)	: Light Gray : (5)	: Light Gray : (6)
Good Middling	(1):		105	103	101	94	99	93
Strict Middling	(2):		104	102	99	91	98	91
Middling	(3):	102	100	97	93	82	92	84
Strict Low Middling	(4):	97	94	89	83	75	85	75
Low Middling	(5):	90	85	80	75	68		
Strict Good Ordinary	(6):	81	76					
Good Ordinary	(7):	73	70					
Below Grade	(8):		60					

The grade of cotton is obtained by evaluating color, leaf and preparation in relation to the official standards. Grade provides an indication of fiber color and the waste content of a sample of cotton. Experience has shown the average relationship between picker and card waste and various grades of upland cotton to be approximately as given in the tabulation shown in the

subsequent section on manufacturing waste. In comparing these average grade figures with the picker and card waste data, it should be understood that variations from the averages for individual samples are attributable to the nature of the extraneous material present in the cotton, the characteristics of the fiber, and whether the grade designation was low because of poor color.

Staple length is the length of a typical portion of the fibers in the samples as determined by the classer in comparison with official standards. Uniformity of fiber length, as well as other fiber properties, influence to some extent the classer's selection of the typical portion of the fibers on which the staple length designation is based. In general, there is a fairly close relationship between the staple length as designated by the classer and the fineness and strength of the yarn that can be manufactured from the cotton. These relationships, however, are also influenced by other fiber properties, the measurements of which will be discussed in the paragraphs which follow.

#### Fiber Tests

Fiber length data were obtained by the Digital Fibrograph method for the short, medium and long staple American upland samples and by the array method for the extra long American Pima and upland samples. Briefly, the Digital Fibrograph method consists of placing representative specimens of cotton weighing approximately 30 centigrams at random on a pair of combs, parallelizing the beards of cotton extending from one side of the combs, and scanning these beards photoelectrically on the instrument at 3 length intervals beginning at 0.15 inch from the teeth of the combs and ending near the outer fringe. The 2.5 percent span length and the 50/2.5 uniformity ratio values reported for each lot are based on five specimens tested by each of two technicians.

The Digital Fibrograph 2.5 percent span length values reported indicate the length which will be spanned by 2.5 percent of the fibers when they are parallel and randomly distributed. It is also the length where the amount of fibers indicated by the instrument is 2.5 percent of the amount at the starting point of 0.15 inch. The Digital Fibrograph 2.5 percent span length values are closely related to staple length designations.

The Digital Fibrograph 50/2.5 uniformity ratio values reported indicate the relative uniformity of fiber length in the samples. They represent the ratios between the 50 percent span length and the 2.5 percent span length, expressed as percentages. Larger values indicate more uniform fiber length distribution. Unusually low fiber length uniformity tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. The following adjective descriptions will serve to classify cottons from the standpoint of 2.5 percent span length and fiber length uniformity:

2.5 percent span length

50/2.5 uniformity ratio

Below 1.00    Short  
1.00 - 1.14    Medium  
1.15 - 1.29    Long  
Above 1.29    Extra-long

Below 42    Very low  
42 - 43    Low  
44 - 45    Average  
46 - 47    High  
Above 47    Very high

Data source - 1575 American upland lots tested from the crops of 1966-68.

Array tests for the extra long staple American Pima and upland samples were performed on the Suter-Webb fiber sorter. Briefly, this method consists of parallelizing the fibers in a representative 75-milligram specimen of cotton through a series of combs, separating the fibers into length groups at 1/8-inch intervals, and weighing the fibers in each length group. The upper quartile length and coefficient of variation values reported are based on one specimen tested by each of two technicians.

The array upper quartile length values reported indicate the length which is exceeded by 25 percent of the weight of the fibers in the samples. They are closely related to and longer than both the Fibrograph and the classer's staple designations. This relationship may vary, however, because the methods measure different fiber length characteristics.

The array coefficient of length variation values reported indicate the relative variability of fiber length in the samples. They represent the standard deviation of the weight-length frequencies expressed as a percentage of the mean length. Smaller values indicate more uniform fiber length distributions. Excessive fiber length variation tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. It is, therefore, considered desirable for a cotton to have a low coefficient of variation. The following adjective descriptions will serve to classify cottons from the standpoint of upper quartile length and fiber length variation:

Upper Quartile Length

Coefficient of Fiber Length Variation

Below 1.10    Short  
1.10 - 1.24    Medium  
1.25 - 1.39    Long  
Above 1.39    Extra Long

Below 26    Very low variation  
26 - 29    Low variation  
30 - 33    Average variation  
34 - 37    High variation  
Above 37    Very high variation

Data source - 830 American upland lots tested from the crops of 1958-60 (more recent data not available).

Fiber fineness and maturity in combination were determined by the micronaire test. This is an instrument test which measures the resistance of a plug of cotton to air flow. A representative standard weight of cotton fibers is placed in the instrument specimen holder and compressed to a fixed

volume. Air at a known pressure is forced through the specimen and the amount of flow is indicated by a direct reading scale. Readings obtained are relative measures of either the weight per unit length, or the cross sectional size of the fibers. Because the instrument measures may differ from the actual weight per inch, depending upon the fiber characteristics of the sample, the results are reported in terms of "micronaire reading" instead of micrograms per inch. These readings are taken from the curvilinear scale adopted in 1950, and now in international use. Fiber fineness contributes to yarn strength, particularly when fine numbers are spun, but it also tends to increase neppiness and to require a reduced rate of processing.

Fiber maturity, also an important factor affecting the appearance of yarns and fabrics, is a desirable characteristic from the standpoint of low picker and card waste. Immature fibers are susceptible to the formation of neps, and contribute to lower yarn appearance grades. The desirability of micronaire reading, therefore, depends on the specific end product or use of the cotton.

Several instruments, including the Micronaire, Fibronaire, and Port-Ar, may be used for these tests. All instruments now use the same scale and report results in the same terms, i.e. "micronaire reading". The micronaire reading is now a part of the official standards for upland cotton along with grade and staple length.

Fiber strength is an important factor in determining yarn strength. Cottons with good fiber strength usually give less trouble in the manufacturing processes than the weak fibered cottons. Tests for fiber strength were made without a space between the clamp jaws (0 gage) using the Pressley flat bundle tester, and with a 1/8-inch spacer between the clamp jaws (1/8-inch gage) using the Stelometer. Strength results from both the Pressley and the Stelometer were controlled at the same level by use of standard calibration cottons. Use of the Stelometer also provides a measure of fiber elongation. Comparative tests have shown that the results of the 1/8-inch gage tests are more highly correlated with yarn strength than the results of the zero gage tests. Results for both methods are reported, however, because the zero gage tests are widely used by the cotton industry.

The results for the Pressley zero gage test are reported in terms of thousand pounds per square inch, as calculated by the use of Formula 1. These results may be converted to other methods of expressing fiber strength by use of Formulas 2, 3, and 4:

$$(1) \text{ Thousand pounds per square inch (Mpsi) } =$$

$$\frac{\text{breaking load in lb} \times 10.81}{\text{bundle weight in mg}}$$

$$(2) \text{ Grams per tex (gm/tex) } = \text{Mpsi} \times 0.496$$

$$(3) \text{ Strength-weight ratio} = \text{Mpsi} \div 10.81$$

$$(4) \text{ Strength-weight ratio} = \text{gm/tex} \div 5.36$$

The results of the 1/8-inch gage tests are reported in terms of grams per tex in accordance with the recommendations of the American Society for Testing and Materials (ASTM), and the International Standards Organization (ISO). A tex unit is equal to the weight in grams of 1000 meters of the material. There is a correlation between the 1/8-inch gage strength test results and fiber length. Cottons with short lengths tend to have lower average strength values than long staple cottons. Results for 1/8-inch gage tests are calculated by use of Formula 5. Stelometer results are adjusted to Pressley level by use of calibration cottons.

$$(5) \text{ Grams per tex} = \frac{\text{breaking load (kg)} \times 15}{\text{bundle weight in mg}}$$

The following descriptive terms may be applied to the data shown in this report:

<u>Staple length group and descriptive designation</u>	<u>Zero gage strength (thousand psi)</u>	<u>1/8-inch gage strength (grams per tex)</u>
Short staple:		
Low	70 - 75	18 - 19
Average	76 - 81	20 - 21
High	82 - 87	22 - 23
Medium staple:		
Low	74 - 80	20 - 21
Average	81 - 87	22 - 23
High	88 - 94	24 - 25
Long staple:		
Low	85 - 88	23 - 24
Average	89 - 92	25 - 26
High	93 - 96	27 - 28
Extra-long staple:		
Low	93 - 96	31 - 32
Average	97 - 100	33 - 34
High	101 - 104	35 - 36

Data source - 291 short staple, 1206 medium staple, 78 long staple, and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Fiber elongation results were obtained in connection with the 1/8-inch gage fiber strength tests by using the Stelometer instrument. The following adjective ratings will assist in the interpretation of the fiber elongation results reported:

<u>Descriptive designation</u>	<u>Fiber elongation . (percent)</u>
Very low	5.3 and below
Low	5.4 - 6.2
Average	6.3 - 7.1
High	7.2 - 8.0
Very high	8.1 and above

Data source - 1575 American upland lots tested from the crops of 1966 - 68.

Color measurements were made on samples of raw stock from each lot by using the Nickerson-Hunter Colorimeter. The basic color values reported are in terms of grayness and yellowness scales designed especially for cotton. The grayness scale ranges from 0 for the brightest samples (no gray) through 9 for the darkest color. The yellowness scale ranges from 0 for the lightest color (no yellow) to 9 for the yellowest color. In other words, the larger the number reported the darker or yellower the cotton becomes. The relationship of these new cotton color scales to Rd and +b values and to the color of the Universal Grade Standards for upland cotton is shown in Figure 2 and for American Pima cotton in Figure 3.

The color of raw cotton is also reported as a single index number. The relationship of the index number to Rd and +b and the color of the Universal Grade Standards for upland cotton is shown in Figure 4.

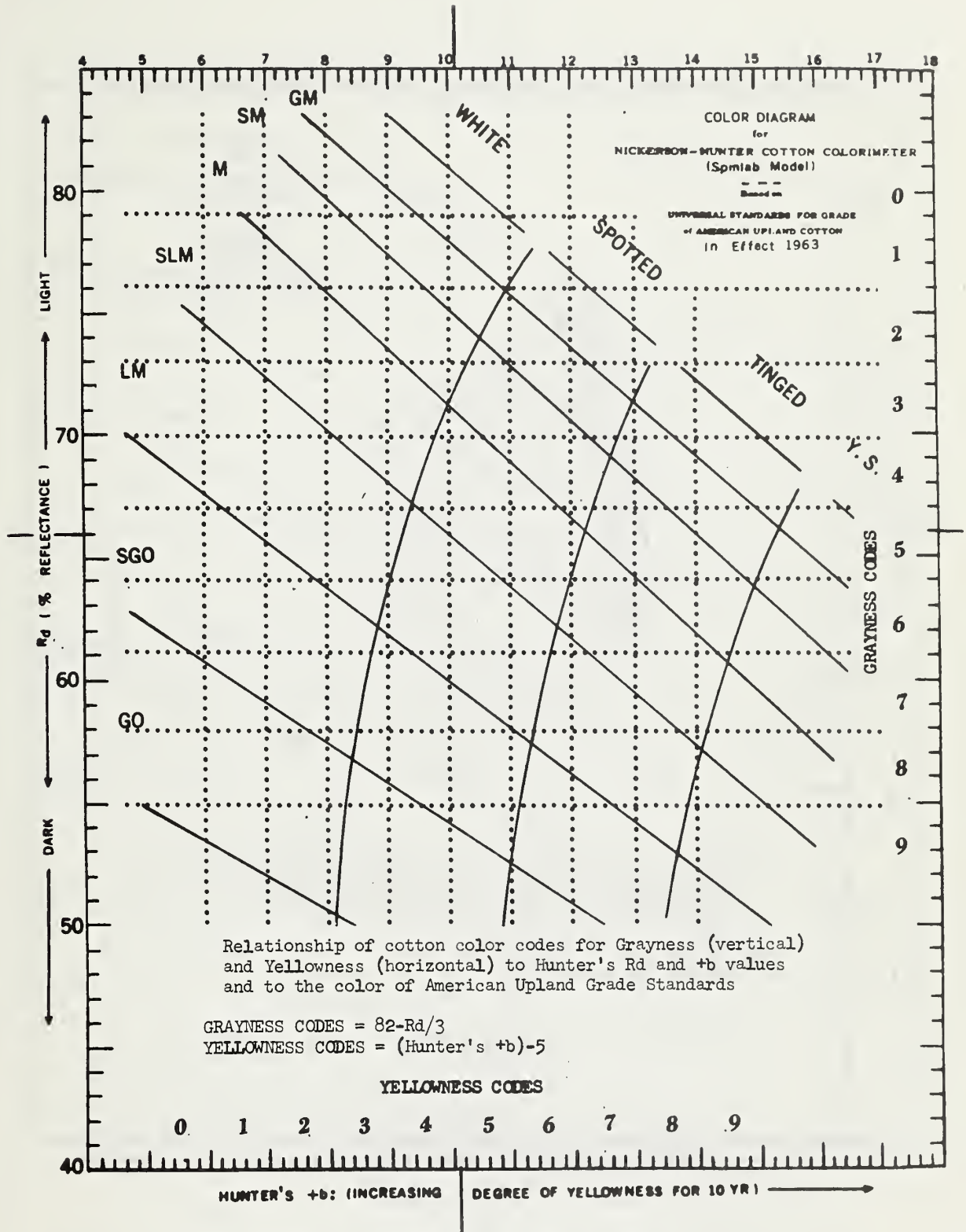


Fig. 2--Colorimeter diagram for upland cotton

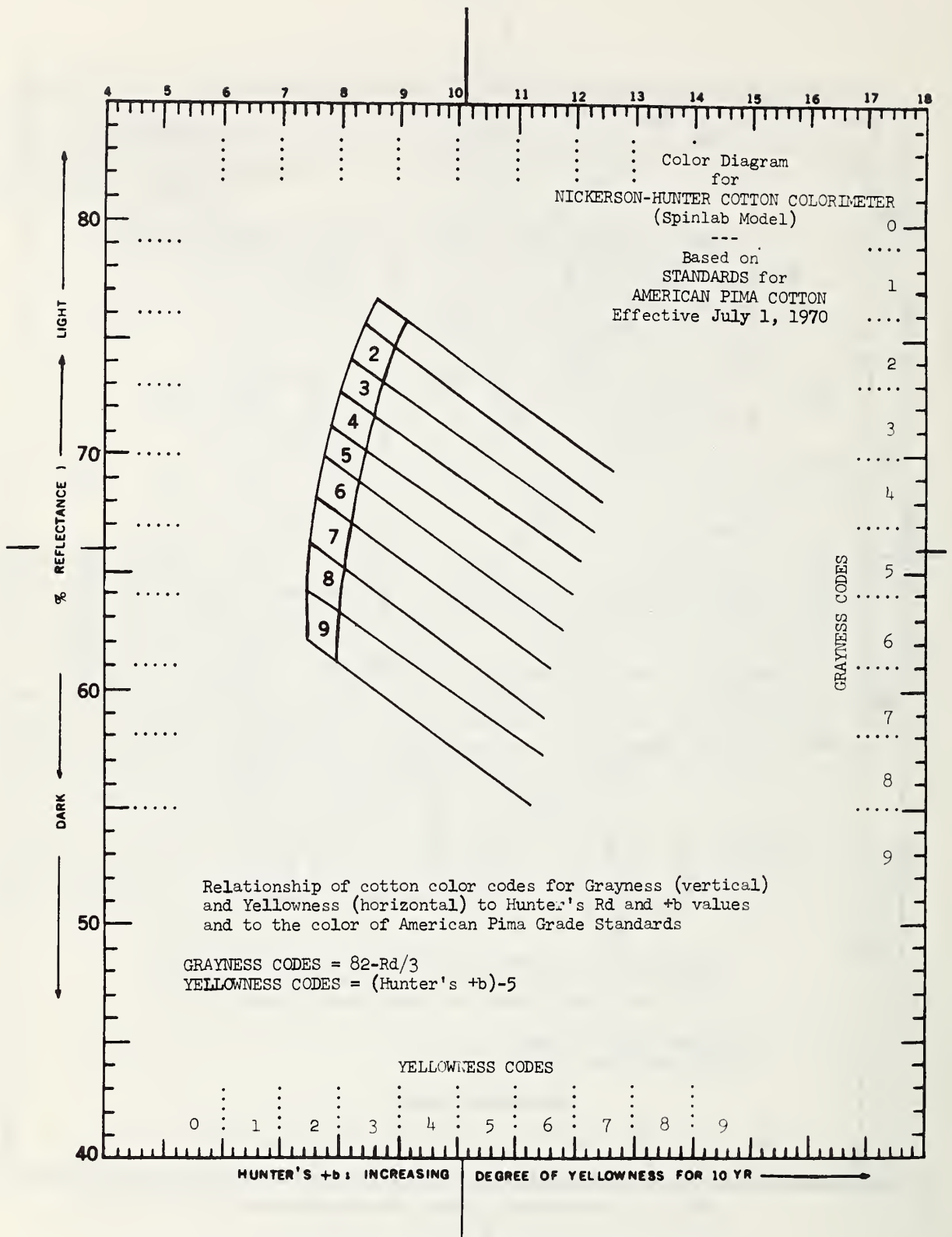


Fig. 3--Colorimeter diagram for American Pima cotton

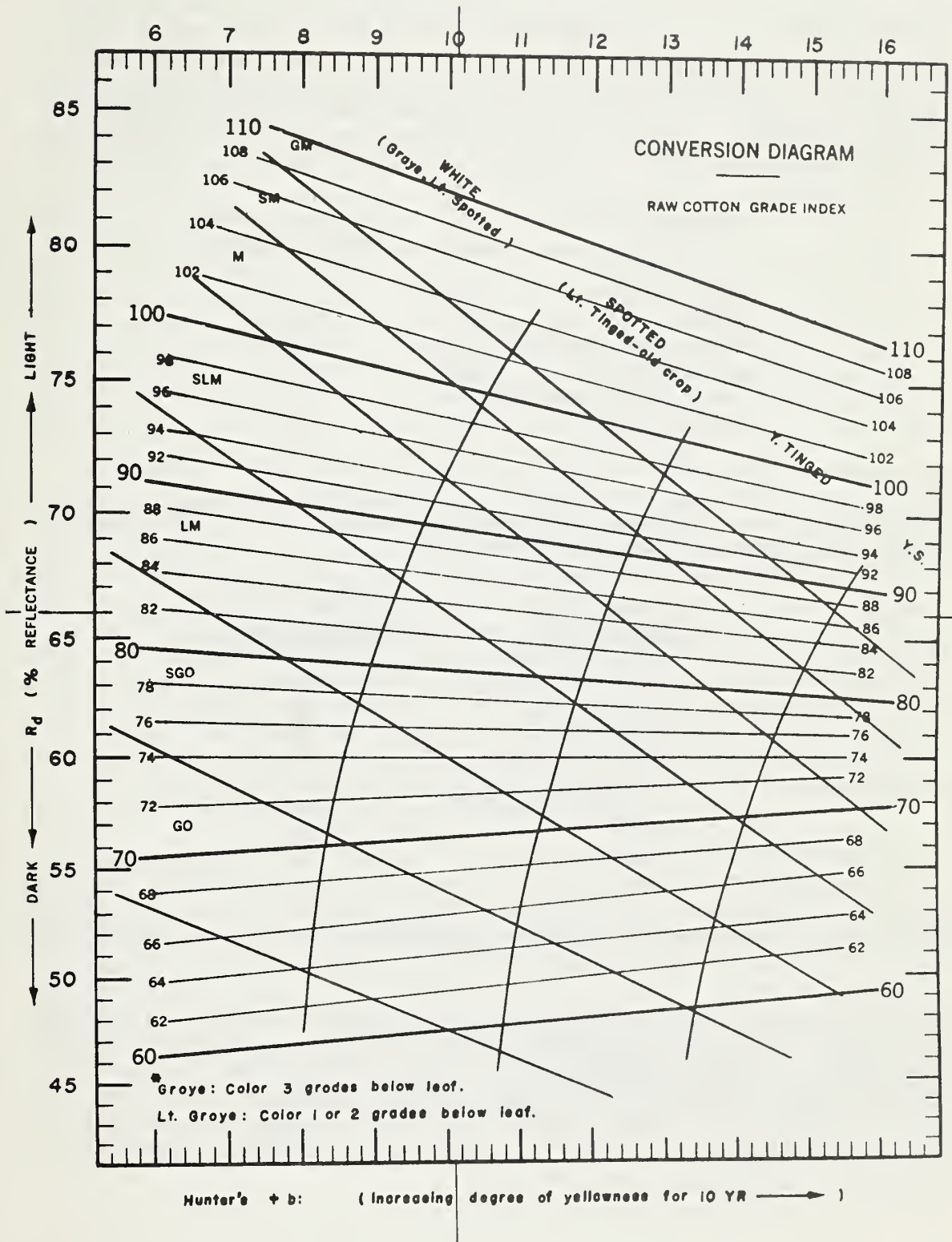


Fig. 4--Conversion diagram for converting raw cotton color to color index

Nonlint content for the various lots was determined by the use of the Shirley Analyzer which separates the lint from the foreign matter. The total nonlint values reported include both visible and invisible loss. These results are distinguished from total picker and card waste in that practically no fiber is included, whereas textile mill wastes include appreciable amounts of fiber. Tests performed in previous years show the following average relationship of Shirley Analyzer nonlint to grade:

<u>American upland grade</u>	<u>Code</u>	<u>Average nonline content (percent)</u>
Strict Middling	(21)	1.8
Middling	(31)	2.3
Strict Low Middling	(41)	3.0
Low Middling	(51)	4.2
Strict Good Ordinary	(61)	5.5
Good Ordinary	(71)	6.7

Data source - 5561 American upland lots tested from crops of 1966-68.

The following scale has been developed to represent the average nonlint content for grades of American Pima cotton:

<u>American Pima grade</u>	<u>Average nonlint content (percent)</u>
1	2.0
2	2.5
3	3.0
4	4.1
5	5.4
6	6.3
7	8.4
8	9.9
9	12.2

Data source - 431 American Pima lots tested from the crops of 1966-68.

Differences between results obtained for individual lots and the average percentages shown for the grades may be caused by: (1) Grade is a combination of color, leaf and preparation; any one of which may be the limiting factor, (2) there is a range of trash allowable within each specific grade and (3) these data are based on weight and do not take into consideration the nature of the trash, which may be as important as weight in determining the final grade.

### Yarn Processing Tests

The results of yarn processing tests reported in this summary were obtained by procedures adopted in 1962 which include heavier weights for laps, slivers and rovings than those used in previous years. These procedures also include spinning from single roving instead of double roving for the two standard yarn numbers and the spinning of a third yarn number on all the samples to provide a small-scale measure of spinning end-breakage or spinning performance. In 1965, metallic card clothing was installed on the carding machines to replace the conventional fillet clothing used previously, and in 1966, crusher rolls were installed on the card machines. These changes reflect similar changes that have taken place in the cotton textile industry including increased emphasis on running quality since the Mid-1940's when long-draft systems were adopted for both the roving and spinning processes in the routine laboratory spinning test procedures. These changes were designed to bring the laboratory processing procedures more in line with current textile mill practices and thus make the processing evaluations more applicable to present day mill operations.

The card production rate employed and the yarn numbers spun for each cotton were selected on the basis of the staple length expected in the specified area of growth as described in the earlier section on test procedures. Four different length groupings were used to cover the range of cottons grown in this country and to approach commercial practices in processing these cottons. The spinning twist multipliers were selected to provide maximum yarn strength on the basis of staple length. Details of the spinning test procedures are shown at the end of this section of the report (Table 25). Results of previous tests show that decreasing the card production rate results in fewer neps, improved yarn appearance grades, and removal of more waste at the card. Results of tests on the various lots should therefore be compared directly for only those lots in the same length group which were processed in a comparable manner.

Manufacturing waste reported for a sample of cotton is important because excessive waste increases the cost of cotton products. The percentage of waste extracted by the picking and carding processes in performing a spinning test provides a measure of manufacturing waste. There is an average relationship between this waste and grade as discussed in the previous section on the grade of cotton. The rate at which the cotton is carded, however, affects the picker and card waste values because the more thorough carding action obtained when the carding rate is decreased extracts a larger quantity of waste. The longer staple cottons are generally carded at a lower rate than the shorter cottons in order to obtain acceptable yarn quality. Tests performed in recent years show the following average relationship of picker and card waste to grade:

American upland grade	Code	Average picker and card waste (percent)	American Pima	Average picker and card waste (percent)
Strict Middling	(21)	4.7	1	7.5
Middling	(31)	5.1	2	7.9
Strict Low Middling	(41)	5.7	3	8.4
Low Middling	(51)	6.7	4	9.5
Strict Good Ordinary	(61)	7.8	5	10.8
Good Ordinary	(71)	8.9	6	11.7
			7	13.7
			8	15.2
			9	17.5

Data source - 5561 samples of American upland cotton and 431 samples of American Pima cotton tested for Shirley Analyzer nonlint content from the crops of 1966-68 and picker and card waste calculated from its relationship to Shirley Analyzer nonlint content.

The percentage of waste removed by the comber is reported in addition to the picker and card waste for cottons processed into combed yarn. The shorter staple cottons are processed through the comber with a closer setting than for the longer staple cottons because smaller comber waste percentages are usually extracted from this cotton in commercial practice.

Yarn strength is perhaps the most important and reliable test of yarn quality. Yarn strength not only determines the range of usefulness of a given cotton, but is also an indication of spinning and weaving performance. Yarn strength is reported in terms of skein strength since studies have shown that such strength values are more closely related to fabric strength as well as to fiber properties than single strand yarn strength. Skein strength data for the two numbers spun are reported for each lot. There is an average relationship between yarn strength and staple length but it varies for the individual cottons because of differences in other characteristics of the fiber.

The following descriptive terms may be of help in determining the relative level of yarn strength in this report:

Kind of yarn,  
staple length group  
and description

Yarn skein strength  
in pounds for the  
specified yarn numbers

Carded yarns:

Short staple group:

Low

8s  
265 - 290

22s  
78 - 86

Average

291 - 316

87 - 95

High

317 - 342

96 - 104

Medium staple group:

Low

22s  
95 - 104

50s  
30 - 35

Average

105 - 114

36 - 41

High

115 - 125

42 - 47

Long staple group:

Low

22s  
125 - 131

50s  
45 - 48

Average

132 - 138

49 - 52

High

139 - 145

53 - 56

Combed yarns:

Long staple group:

Low

22s  
142 - 149

50s  
52 - 55

Average

150 - 157

56 - 59

High

158 - 165

60 - 63

Extra-long staple group:

Low

50s  
66 - 68

80s  
36 - 37

Average

69 - 71

38 - 39

High

72 - 74

40 - 41

Data source - 291 short staple, 1206 medium staple, 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Yarn elongation results were obtained in connection with yarn skein strength tests. Elongation in the yarn is highly correlated with fiber elongation. Yarns with high elongation give less end breakage in weaving than yarns with low elongation.

The following descriptive terms may be of some help in determining the relative levels of yarn elongation:

Kind of yarn,  
staple length group,  
and description

Yarn elongation  
in percent for the  
specified yarn numbers

Carded yarns:

Short staple group:

Low	$6.5 - \frac{8s}{7.3}$	$5.5 - \frac{22s}{6.2}$
Average	$7.4 - 8.1$	$6.3 - 7.0$
High	$8.2 - 9.0$	$7.1 - 7.8$

Medium staple group:

Low	$5.4 - \frac{22s}{5.9}$	$4.0 - \frac{50s}{4.5}$
Average	$6.0 - 6.5$	$4.6 - 5.1$
High	$6.6 - 7.1$	$5.2 - 5.7$

Long staple group:

Low	$6.2 - \frac{22s}{6.5}$	$5.2 - \frac{50s}{5.4}$
Average	$6.6 - 6.9$	$5.5 - 5.7$
High	$7.0 - 7.3$	$5.8 - 6.0$

Combed yarns:

Long staple group:

Low	$6.6 - \frac{22s}{6.9}$	$5.5 - \frac{50s}{5.7}$
Average	$7.0 - 7.3$	$5.8 - 6.0$
High	$7.4 - 7.7$	$6.1 - 6.3$

Extra-long staple group:

Low	$5.6 - \frac{50s}{5.8}$	$4.6 - \frac{80s}{4.8}$
Average	$5.9 - 6.1$	$4.9 - 5.1$
High	$6.2 - 6.4$	$5.2 - 5.4$

Data source - 291 short staple, 1206 medium staple and 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Yarn Appearance refers to the relative evenness, smoothness and freedom from foreign material of the yarn as evaluated by a visual comparison of the yarn with the latest standards adopted by the American Society for Testing and Materials. Since appearance is very important in many types of cotton products, high yarn appearance grades are desirable. The following descriptive terms may be of help in determining the relative levels of yarn appearance in this report.

Kind of yarn,  
staple length group,  
and description

Yarn appearance index  
for the  
specified yarn numbers

Carded yarns:

Short staple group:

Low

8s  
105 - 113

22s  
92 - 104

Average

114 - 122

105 - 117

High

123 - 130

118 - 130

Medium staple group:

Low

22s  
93 - 105

50s  
77 - 87

Average

106 - 118

88 - 98

High

119 - 130

99 - 109

Long staple group:

Low

22s  
71 - 86

50s  
65 - 78

Average

87 - 102

79 - 92

High

103 - 118

93 - 106

Combed yarns:

Long staple group:

Low

22s  
81 - 97

50s  
70 - 85

Average

98 - 114

86 - 101

High

115 - 130

102 - 117

Extra-long staple group:

Low

50s  
102 - 111

80s  
98 - 106

Average

112 - 121

107 - 115

High

122 - 130

116 - 124

Data source - 291 short staple, 1206 medium staple, 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Yarn Appearance Grades

<u>Grade</u>	<u>Index</u>
A	130
B+	120
B	110
C+	100
C	90
D+	80
D	70
Below D	60

Yarn imperfections are reported for the two yarn numbers spun for each lot of cotton. These results were obtained on "Neptel" instruments which electronically count the abrupt changes in the silhouette of the yarn while passing it through a beam of light. They are expressed as the number of imperfections per 50 yards of yarn and are based on the average of 10 determinations. This value is an instrument measure of product quality which is associated with the characteristics of the cotton. It is more highly correlated with fiber properties than either neps in card web or yarn appearance grade. The following descriptive terms may be of help in determining the relative level of yarn imperfections in this report:

<u>Kind of yarn, staple length group, and description</u>	<u>Yarn imperfections for the specified yarn numbers</u>	
Carded yarns:		
Short staple group:	<u>8s</u>	<u>22s</u>
Low	6 - 31	6 - 21
Average	32 - 57	22 - 37
High	58 - 83	38 - 53
Medium staple group:	<u>22s</u>	<u>50s</u>
Low	3 - 15	2 - 11
Average	16 - 28	12 - 21
High	29 - 41	22 - 31
Long staple group:	<u>22s</u>	<u>50s</u>
Low	7 - 22	6 - 17
Average	23 - 38	18 - 29
High	39 - 54	30 - 41
Combed yarns:		
Long staple group:	<u>22s</u>	<u>50s</u>
Low	0 - 8	0 - 6
Average	9 - 20	7 - 16
High	21 - 32	17 - 26
Extra-long staple group:	<u>50s</u>	<u>80s</u>
Low	0 - 1	0 - 1
Average	2 - 3	2 - 3
High	4 - 5	4 - 5

Data source - 291 short staple, 1206 medium staple, 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Spinning potential yarn number indicates the finest yarn number that can be spun from a cotton sample without any end-breakage when using specific processing procedures. In performing these tests, new travelers, draft gears, and twist gears are installed for the selected yarn number and it is spun for a 15-minute trial period. The yarn number selected is considered acceptable if there is an end-breakage involving 5 to 15 of the 96 spindles employed during the trial run. If end-breakages occur on less than 5 or more than 15 of the 96 spindles during the trial period, a different yarn number is selected to be spun for another 15-minute trial period until the acceptable end-breakage rate is obtained. The acceptable trial period is also used for a warm-up period which is followed by a 1-hour test period. The spinning potential yarn number is calculated from the deviation of the actual yarn number spun from the desired yarn number and the number of spindles with end-breakages during the 1-hour test run. The following descriptive terms may be of help in determining the relative level of spinning potential yarn numbers in this report:

	<u>Spinning Potential (SPY No.)</u>		
	<u>Short staple group</u>	<u>Medium staple group</u>	<u>Long staple group</u>
Low	31 - 39	55 - 63	77 - 83
Average	40 - 48	64 - 72	84 - 90
High	49 - 57	73 - 81	91 - 97

Data source - 123 short staple, 688 medium staple and 48 long staple lots of cotton tested from the crops of 1967-68.

#### Chemical Finishing Tests

Information with respect to the bleaching and dyeing properties of different varieties and growths of cotton is of particular significance to textile manufacturers from the standpoint of providing a basis for avoiding problems that may result from blending different varieties and growths having different dyeing properties. Data with respect to the chemical finishing properties of the principal varieties and growths of cotton as herein reported may thus be used as a basis for selecting cottons of similar finishing properties. Details of the chemical finishing tests are described in Agricultural Information Bulletin No. 167 - "Bleaching, Dyeing, and Mercerizing Test Results on Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1955".

Color measurements of cotton yarn samples were made on a Gardner Automatic Color Difference Meter. These values are reported in terms of Rd and b, two of the three scales on the instrument. The Rd scale measures percentages of diffuse reflectance from 0 to 100. The b scale provides a measure of yellowness in the direction of +b and of blueness in the direction of -b. The degree of either yellowness or blueness increases as the scale numbers increase. These data when plotted with Rd on the vertical ordinate and with

b on the horizontal ordinate are similar to the color values for raw cotton when plotted in relation to the official grade standards as described in the earlier section on color of raw stock.

While the color factors  $R_d$  and b are not independent of each other and should be considered together in any overall interpretation, for many purposes it would be convenient in evaluating results to have them in terms of a single number. For raw cotton the grade index provides one way to do this in a straightforward manner. A similar method has been followed in developing conversion formulae and diagrams for each form of cotton measured for color as a part of the chemical finishing studies of the Cotton Division. In each, the index for Middling is held at 100 and that for Good Ordinary is held close to 70. By use of such indices the color measurements of raw stock, gray yarns, bleached yarns, and bleached and dyed yarns may be converted to a single number specification. For details see "Grade and Color Indexes Developed for Evaluating Results of USDA Cotton Finishing Tests", (AMS-245, June 1958).

Table 25.---Cotton: Standard machine settings and specifications for processing specified staple length groupings

Process	Staple length groups			
	Short	Medium	Long	Extra long
1. PICKER				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Each test lot is processed through a finisher type picker twice to produce the specified weight of lap.....ounces per yard				
Type of beater.....	14 Kirschner	14 Kirschner	14 Kirschner	11 Kirschner
Beater speed.....r.p.m.	1,000	1,000	1,000	1,000
Settings:				
Feed roll to beater.....inches	3/16	3/16	3/16	3/8
Grids to beater, top.....inches	5/16	5/16	5/16	9/16
Grids to beater, bottom.....inches	11/16	11/16	11/16	11/16
2. CARD				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Picker lap fed.....ounces per yard	14	14	14	11
Sliver delivered.....grains per yard	50	50	50	40
Production rate.....pounds per hour	12-1/2	9-1/2	6-1/2	4-1/2
Doffer speed.....r.p.m.	11	8	6	4
Cylinder speed.....r.p.m.	165	165	165	165
Flat speed.....inches per minute	2-7/8	2-7/8	2-7/8	2-7/8
Licker-in speed.....r.p.m.	435	435	435	435
Clothing:				
Cylinder, Hollingsworth metallic.....number	35	35	25	25
Doffer, Hollingsworth metallic.....number	29	29	29	29
Flats, Fillet.....number	110	110	130	130
Settings:				
Feed plate to licker-in.....inches	0.010	0.010	0.010	0.017
Mote knife to licker-in, top.....inches	.012	.012	.012	.012
Mote knife to licker-in, bottom.....inches	.010	.010	.010	.010
Licker-in screen, front.....inches	.029	.029	.029	.029
Licker-in screen, back.....inches	.017	.017	.017	.017
Licker-in to cylinder.....inches	.007	.007	.007	.007
Flats to cylinder, back, center, and front.....inches	.009	.009	.009	.009
Back plate to cylinder, top.....inches	.029	.029	.029	.029
Back plate to cylinder, bottom.....inches	.034	.034	.034	.034
Front plate to cylinder, top.....inches	.029	.029	.029	.029
Front plate to cylinder, bottom.....inches	.034	.034	.034	.034
Doffer to cylinder.....inches	.007	.007	.007	.007
Cylinder screen, back.....inches	.029	.029	.029	.029
Cylinder screen, center.....inches	.034	.034	.034	.034
Cylinder screen, front.....inches	3/16	3/16	3/16	3/16
Doffer comb to doffer.....inches	.022	.022	.022	.022
Crusher rolls pressure.....pounds	281	281	281	281
3. SLIVER LAPPER (combed only)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Sliver fed, 20 each.....grains per yard	--	--	50	40
Lap delivered.....grains per yard	--	--	595	525
Speed.....yards per minute	--	--	46	46
Roll settings (center to center):				
First to second.....inches plus fiber length 1/	--	--	5/16	5/16
Second to third.....inches plus fiber length 1/	--	--	9/16	9/16

1/ Allowances listed are in addition to fiber lengths in terms of "pulls" made on card sliver. These pulls are estimated from Fibrograph length tests except for extra long staple cottons.

Table 25 ---Cotton: Standard machine settings and specifications for processing specified staple length groupings--Continued

Process	Staple length groups			
	Short	Medium	Long	Extra long
4. RIBBON LAPPER (combed only)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Laps fed, 4.....grains per yard	--	--	595	525
Laps delivered.....grains per yard	--	--	610	610
Speed.....yards per minute	--	--	47	47
Roll settings (center to center):				
First to second.....inches plus fiber length $\frac{1}{4}$	--	--	4/16	4/16
Second to third.....inches plus fiber length $\frac{1}{4}$	--	--	7/16	7/16
Third to fourth.....inches plus fiber length $\frac{1}{4}$	--	--	10/16	10/16
5. COMBER (Model D-4)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Laps fed, 8 each.....grains per yard	--	--	610	610
Sliver delivered.....grains per yard	--	--	50	40
Production per hour.....pounds	--	--	16	13
Setting of cushion plate to detaching roll.....inches	--	--	.48	.54
Nominal waste.....percent	--	--	16 to 17	16 to 17
6. DRAWING FRAME (synthetic top rolls)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
First process:				
Sliver fed, 6 each.....grains per yard	50	50	50	40
Sliver delivered.....grains per yard	60	53	53	42
Second process:				
Sliver fed, 6 each.....grains per yard	60	53	53	42
Sliver delivered.....grains per yard	70	55	55	44
Speed.....yards per minute	36	36	36	36
Roll settings (center to center):				
First to second.....inches plus fiber length $\frac{1}{4}$	4/16	4/16	4/16	4/16
Second to third.....inches plus fiber length $\frac{1}{4}$	7/16	7/16	7/16	7/16
Third to fourth.....inches plus fiber length $\frac{1}{4}$	10/16	10/16	10/16	10/16
7. LONG DRAFT ROVING (8 x 4, 2 apron type)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Sliver fed.....grains per yard	70	55	55	44
Roving delivered.....hank	1.10	1.80	1.80	4.25
Spindle speed.....r.p.m.	1235	1235	1235	1235
Roll settings (center to center):				
First to second, standard.....inches	2-1/4	2-1/4	2-1/4	2-1/4
Third to fourth.....inches plus fiber length $\frac{1}{4}$	1/4	1/4	1/4	1/4
8. LONG DRAFT SPINNING (2 apron type)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	65	65	65	65
Roving fed single.....hank	1.10	1.80	1.80	4.25
Twist multiplier.....number	4.4	4.0	3.8	3.6
Carded yarns.....number 2/	8s & 22s	22s & 50s	22s & 50s	--
Combed yarns.....number	--	--	22s & 50s	50s & 80s
Spindle speed.....r.p.m. 3/	9000	9000	9000	9000
Roll settings (center to center):				
First to second, standard.....inches	2-1/16	2-1/16	2-1/16	2-1/16
Second to third, standard.....inches	1-3/4	1-3/4	1-3/4	1-3/4

2/ Additional yarn is spun on a 96 spindle wide gage frame at 9,000 r.p.m. spindle speed to determine the spinning potential yarn number or the finest yarn number that can be spun without end-breakage.

3/ All standard yarn numbers are spun on narrow gage frames with spindle speeds of 9,000 r.p.m. except for 8s, which are spun on a wide gage frame with spindle speed of 5,500 r.p.m.

